

# Volume 2 : Small, medium, large and multiple room systems



Energi TriPak®



GRAFIK Eye® QS families



Energi Savr Node™ families



RadioRA® 2

## **Volume 1** (P/N 367-1746)

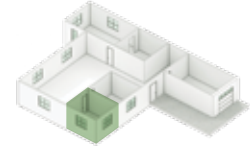
### **Basic devices and single-space systems**

- Tie multiple dimmers and switches together with wireless sensors and remote controls
- Perfect for retrofit, renovation, or new construction

### **Commercial**



### **Residential**

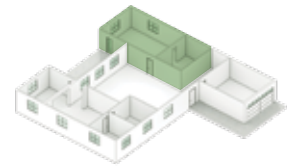


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## **Volume 2** (P/N 367-2066)

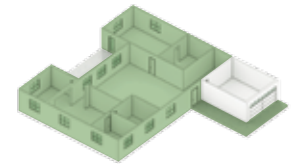
### **Solutions for small/medium rooms**

- Add integrated control of window shades and tie in with A/V or other building systems
- Wired or wireless communication for retrofit, renovation, or new construction



### **Solutions for large/multiple rooms**

- Expand control to larger spaces and across multiple rooms—even an entire floor
- Wireless components and digital devices provide for easy reconfiguration without re-wiring

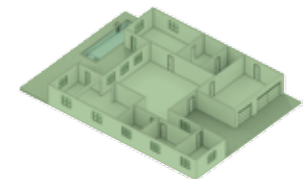


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## **Volume 3** (P/N 367-2102)

### **Solutions for an entire home, building, or campus**

- Manage control of daylight and electric light on any scale
- Homeowners and facility managers can maximize energy efficiency, comfort, convenience, and productivity
- Display and optimize light and energy use across the entire system





## Introduction

- 2 Expanded table of contents for systems and components
- 4 Energy-saving strategies for projects of every size
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- 8 Voltages and energy-saving strategies by system

## System overviews

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### Large/multiple room systems

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## System components

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## System overviews

Energi TriPak®  
 GRAFIK Eye® QS  
 GRAFIK Eye QS with EcoSystem®/DALI  
 Energi Savr Node™  
 RadioRA® 2

## Primary controls: Main units, Energi Savr Node units, dimmers, and switches

Maestro Wireless® dimmers and switches  
 Rania® wireless Radio Frequency (RF) switch  
 Maestro Wireless tabletop lamp dimmer  
 PowPak® dimming module with EcoSystem  
 PowPak relay module  
 PowPak plug-in dimming and appliance modules  
 PowPak stairwell fixture  
 RadioRA 2 designer dimmers and switches  
 RadioRA 2 tabletop lamp dimmer  
 RadioRA 2 RF plug-in module  
 RadioRA 2 hybrid keypad  
 GRAFIK Eye QS main unit  
 (QS, DALI and EcoSystem models)  
 Energi Savr Node with EcoSystem  
 Energi Savr Node for 0–10V/Energi Savr Node  
 with Softswitch®  
 Energi Savr Node with EcoSystem (DIN-rail)  
 Energi Savr Node phase adaptive (DIN-rail)  
 Energi Savr Node for DALI (DIN-rail)  
 Energi Savr Node for 0–10V/Energi Savr Node  
 for Switching (DIN-rail)

## Sub-controls: Keypads and wireless controls

Pico® wireless control  
 RadioRA 2 seeTouch® wireless keypad  
 RadioRA 2 tabletop wireless keypad  
 RadioRA 2 visor control transmitter  
 seeTemp® wall control  
 TouchPRO Wireless® thermostat  
 EcoSystem infrared (IR) remote control  
 and IR receiver  
 QS IR Eye  
 Infrared (IR) remote control  
 seeTouch QS keypad  
 International seeTouch QS wallstation  
 QS keyswitch  
 Pico wired control  
 EcoSystem wallstation  
 QS timeclock

## Energy-saving sensors

### Wireless

Radio Powr Savr™ ceiling-mount  
 occupancy/vacancy sensor  
 Radio Powr Savr wall-mount  
 occupancy/vacancy sensor  
 Radio Powr Savr ceiling-mount daylight sensor  
 Wall-mount temperature sensor

### Wired

Wired daylight sensor  
 LOS-C series ceiling-mount  
 occupancy sensor  
 LOS-W series wall-mount  
 occupancy sensor  
 Power packs  
 Infrared partition status sensor (IRPS)

## Control interfaces

- PowPak® contact closure output module
- RadioRA® 2 main and auxillary repeater
- RadioRA 2 visor control receiver
- HVAC controller
- QS sensor module
- QS Contact closure input/output interface
- QS RS232/Ethernet interface
- QS DMX control interface
- Emergency lighting interface
- QS motor group controller
- EcoSystem® to 0–10V interface
- Energi Savr Node™ programming interface

## Power interfaces

- Phase-adaptive power module
- 3-wire fluorescent power module
- Phase-adaptive power module with 3-wire fluorescent input
- Switching power module
- Power booster
- Electronic low-voltage interface
- Fluorescent dimming ballast interface
- 0–10V interface
- Pulse width modulation interface
- EcoSystem dimming power module
- EcoSystem switching power module
- EcoSystem fixture module
- Synthetic minimum load interface

## Ballasts and drivers

- Quick reference guide
- EcoSystem H-Series ballast
- Hi-lume® 3D ballast
- EcoSystem ballast
- EcoSystem compact ballast

- Hi-lume ballast
- Ballast models by country
- LED driver model numbers
- Tu-Wire® ballast
- Hi-lume A-Series LED driver
- EcoSystem LED driver
- Fluorescent ballast model numbers

## Software applications and system programming

- RadioRA 2
- GRAFIK Eye® QS families
- Energi Savr Node families

## Shading systems

- Overview of shades

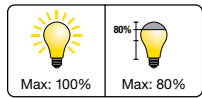
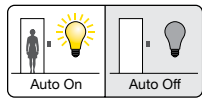
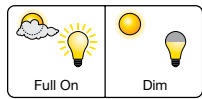
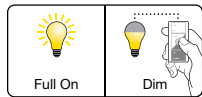
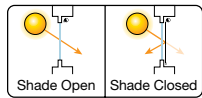
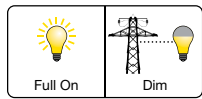
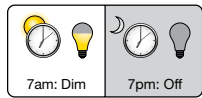
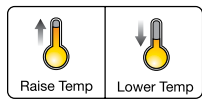
## Wallplates and accessories

- Architectural
- Designer | Claro®/Satin Colors®
- International accessories
- International square wallplate for Pico®
- QS link power supply
- Electric low voltage transformer
- Lamp socket wiring tester
- Lockable cover
- Enclosure for QS control interfaces
- Mounting rack for QS control interfaces
- Cable/wiring
- Mounting
- Engraving
- Custom controls

## Ivalo® Fixtures

- Overview of Ivalo

## Energy-saving strategies

Strategy		Potential savings <sup>1</sup>
	<p><b>High-end trim</b> sets the maximum light level, based on customer requirements, in each space.</p>	10%–20% Lighting <sup>2</sup>
	<p><b>Occupancy/vacancy sensing</b> turns lights on when occupants are in a space and off when people vacate the space.</p>	20%–60% Lighting <sup>3</sup>
	<p><b>Daylight harvesting</b> dims electric lights when daylight is available to light the space.</p>	25%–60% Lighting <sup>4</sup>
	<p><b>Personal dimming control</b> gives occupants the ability to set the light level.</p>	10%–20% Lighting <sup>5</sup>
	<p><b>Controllable window shading</b> moves shades to reduce glare and solar heat gain.</p>	10%–30% AC <sup>6</sup>
	<p><b>Demand response</b> automatically reduces lighting loads during times of peak electricity usage.</p>	30%–50% Lighting during peak periods <sup>7</sup>
	<p><b>Scheduling</b> provides scheduled changes in light levels based on time of day.</p>	Variable
	<p><b>Temperature control</b> automatically sets back the temperature, so less energy is used when heating or cooling a room.</p>	Variable

1. Although combining savings for a building from individual room strategies is not strictly additive, solutions that utilize all strategies typically save 60% or more. Glenn Hughes, director of construction for The New York Times Company building in New York City, reports 75% lighting energy savings using Lutron systems. Jeff Choma, manager of mechanical and electrical systems at Georgian College in Ontario Canada, reports 70% lighting energy savings using Lutron systems. Lighting energy savings exceeding 60% are frequently reported by customers using Lutron solutions as part of an overall energy-saving design program.
2. The Illuminating Engineering Society of North America Lighting Handbook (Rea, 2000) recommends use of light reduction factors that create an initially overlighted space. Savings from high-end trim mitigates these factors as well as other architectural constraints that cause overlighting.
3. VonNieda B, Maniccia D, & Tweed A. 2000. An analysis of the energy and cost savings potential of occupancy sensors for commercial lighting systems. Proceedings of the Illuminating Engineering Society. Paper #43.
4. Brambley MR, et al. 2005. Advanced sensors and controls for building applications: Market assessment and potential R&D pathways. Pacific Northwest National Laboratory: prepared for U.S. Department of Energy.
5. Galasiu AD, et al. 2007. Energy-saving lighting control systems for open-plan offices: A field study. Leukos. 4(1) pg. 7–29.
6. Lutron commissioned study by Herrick Laboratories. Purdue University. 2011.
7. Newsham GR & Birt B. 2010 demand-responsive lighting a field study. Leukos. 6(3) pg. 203–225.

## Small/medium room solutions



### Commercial

- Conference rooms
- Patient rooms
- Hotel guest rooms
- Private offices
- Lobbies
- Lecture halls



### Residential

- Home theaters
- Living rooms
- Kitchens

## Large/multiple room solutions



### Commercial

- Open office spaces
- Retail stores
- Restaurants
- Houses of worship
- Classrooms
- Atriums



### Residential

- Open floor plan/multiple-room home
- Small to medium residences

## Systems available for small/medium rooms

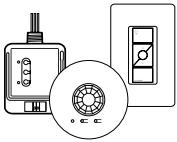
### Energi TriPak®

- Wireless retrofit system
- Personal dimming control
- Light control for multiple zones

### GRAFIK Eye® QS families

- Preset light control
- Shade control
- Interoperability with other systems

### Energi TriPak



#### Energi TriPak

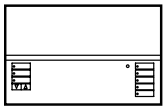
Family of wireless, energy-saving products featuring sensors, controls, wallbox dimmers/ switches, plug-in modules, junction box mounted devices, and stairwell fixtures.

#### INTERNATIONAL MODELS AVAILABLE



- Private offices
- Public restrooms
- Conference rooms
- Classrooms

### GRAFIK Eye QS families



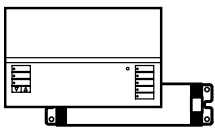
#### GRAFIK Eye QS

Scene-based control system perfect for single rooms in residential applications.

#### INTERNATIONAL MODELS AVAILABLE



- Home theaters
- Living rooms
- Family rooms
- Kitchens
- Media rooms
- Conference rooms
- Small restaurants



#### GRAFIK Eye QS with EcoSystem®/GRAFIK Eye QS for DALI

Scene-based control system ideal for single rooms or partitioned spaces in commercial applications. Compatible with fluorescent dimming ballasts and EcoSystem LED drivers.



- Lecture halls
- Boardrooms
- Atriums
- Lobbies



## Systems available for large/multiple rooms

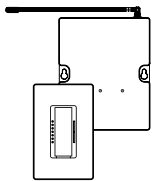
### RadioRA® 2

- Light control for multiple rooms up to an entire home
- Shade control
- Interoperability with other systems

### Energi Savr Node™

- Control lighting in a single space up to an entire floor
- Control unit offering to dim or switch virtually any lighting load in the space
- Wired and/or wireless sensor and control options

## RadioRA 2



### RadioRA 2

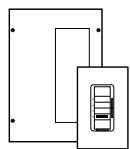
Master control system for residential applications, for a single room, multiple rooms, or an entire home.



- Multiple rooms
- Whole home

## Energi Savr Node families

INTERNATIONAL MODELS AVAILABLE

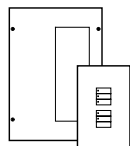


### Energi Savr Node with EcoSystem®

Scene-based control solution recommended for multiple room commercial applications. Solution compatible with fluorescent dimming ballasts and EcoSystem LED drivers and is available in panel DIN-rail form factor.



- Open office spaces
- Classrooms
- Private offices
- Conference rooms

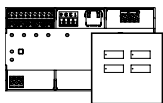


### Energi Savr Node for 0-10V/ Energi Savr Node with Softswitch®/ Energi Savr Node for switching 0-10V

General-purpose switching and dimming solution used in commercial applications. Available in panel or DIN-rail form factor.



- Hallways
- Lobbies
- Storage areas

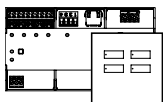


### Energi Savr Node for DALI

General-purpose DALI dimming solution with DIN-rail form factor. Solution compatible with DALI dimmable fluorescent ballasts and LED drivers by other manufactures.



- Open office spaces
- Classrooms
- Conference rooms



### Energi Savr Node phase adaptive

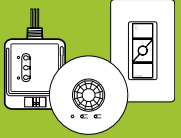
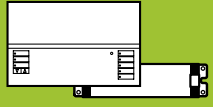
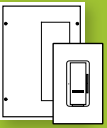

Dimming solution for the control of dimmable compact fluorescent (CFLs)/LEDs in a DIN-rail form factor.













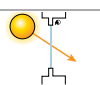





- Hotel guest rooms
- Hotel lobbies
- Retail
- Residences



Small/medium room systems

 <b>Energi TriPak®</b> pg. 10	 <b>GRAFIK Eye® QS/ GRAFIK Eye QS with EcoSystem®/ DALI</b> pg. 22	 <b>Energi Savr Node™ phase adaptive (DIN-rail)</b> pg. 58	 <b>Energi Savr Node with EcoSystem (DIN-rail)</b> pg. 58
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Voltage availability*						
100V	●	●				
110V–127V	●	●				
127V (NOM)	●	●				
120V/277V	●	●				
220V–240V	●	●	●		●	
220V–240V (CE)		●	●		●	
Energy-saving strategies						
 Max: 100%	 Max: 80%	High-end trim	●	●	●	●
 Full On	 Dim	Personal light control	●	●	●	●
 Auto On	 Auto Off	Occupancy/vacancy sensing	●	●	●	●
 Full On	 Dim	Daylight harvesting	●	●	●	●
 7am: Dim	 7pm: Off	Scheduling		●	●	● 2
 Raise Temp	 Lower Temp	Temperature control				
 Shade Open	 Shade Closed	Controllable window shades		●	● 3	● 3
 Full On	 Dim	Demand response				

\*For voltage requirements by country refer to the chart on pg. 458

# Large/multiple room systems

 <p><b>Energi Savr Node™ with EcoSystem®</b> pg. 58</p>	 <p><b>RadioRA® 2</b> pg. 78</p>	 <p><b>Energi Savr Node for 0-10V/Softswitch®</b> pg. 58</p>	 <p><b>Energi Savr Node for DALI (DIN-rail)</b> pg. 58</p>	 <p><b>Energi Savr Node for 0-10V/ Switching (DIN-rail)</b> pg. 58</p>
●	●	●		
●	●	●		
●	●	●		
●		●	●	●
			●	●
●	●	● <sup>1</sup>	●	● <sup>1</sup>
●	●	●	●	●
●	●	●	●	●
●		●	●	●
● <sup>2</sup>	●	● <sup>2</sup>	● <sup>2</sup>	● <sup>2</sup>
	●			
● <sup>3</sup>	●	● <sup>3</sup>	● <sup>3</sup>	● <sup>3</sup>
●	●	●	●	●

<sup>1</sup> Available with Energi Savr Node for 0-10V models

<sup>3</sup> Shade keypad required

<sup>2</sup> Available by connecting to QS timeclock

This family of wireless, energy-saving products features sensors and remote controls, wallbox dimmers/switches, plug-in modules, junction box mounted devices, and stairwell fixtures.

### Feature highlights

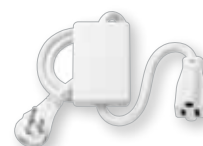
- High-end trim to set maximum light levels
- Low-end trim to set minimum light levels (stairwell fixture)
- Personal control
- Occupancy/vacancy sensing
- Daylight harvesting
- Appliance control

### Typical applications

- Private offices
- Public restrooms
- Conference rooms
- Classrooms
- Stairwells



Radio Powr Savr™  
daylight sensor



PowPak® plug-in  
appliance module

Download the connection diagrams  
for Energi TriPak



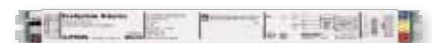
**Radio Powr Savr ceiling-mount occupancy/vacancy sensor**



**PowPak® dimming module with EcoSystem®**



**Pico® wireless control**



**EcoSystem H-Series digital dimming ballast**

## Typical system components and communication

### Primary controls

#### Dimmers and switches



Maestro Wireless® dimmer



Maestro Wireless switch

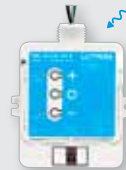


Maestro Wireless tabletop lamp dimmer



Rania® Wireless RF switch

#### Control modules\*



PowPak dimming module with EcoSystem®



PowPak relay module with Softswitch®

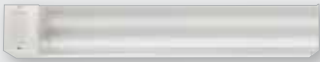


PowPak plug-in dimming module



PowPak plug-in appliance module

#### Fixture



PowPak® stairwell fixture

### Sensors



Radio Powr Savr™ wireless occupancy/vacancy sensors



Radio Powr Savr wireless daylight sensor

### Sub-controls



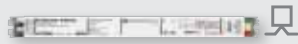
Pico® wireless controls

Wireless Radio Frequency (RF) communication

Wired communication

## EcoSystem® ballasts and drivers

(Communicates via EcoSystem digital link to PowPak® dimming module with EcoSystem only)



EcoSystem  
H-Series ballast



EcoSystem ballast



Hi-lume® 3D ballast



Hi-lume A-Series  
LED driver

## Control interfaces\*



PowPak  
contact closure  
output module

## Third-party devices



Security system  
(by others)



HVAC system  
(by others)

**For illustration purposes only. Consult specification submittals and/or installation instructions for wiring information.**

\*NOTE: Control modules directly control a load or appliance.  
Control interfaces do not directly control loads.

## Understanding how to build an Energi TriPak system

### 1. Occupancy/vacancy sensor selection

Specify a wireless occupancy/vacancy sensor to turn lights on and/or off based on the space occupancy or choose a vacancy-only sensor for manual on and automatic off.

### 2. Daylight sensor selection

Specify a wireless daylight sensor to dim or switch zones of light in response to available daylight.

### 3. Overhead light control selection

Select a PowPak® module or a Maestro Wireless® dimmer or switch depending on the application.

### 4. Task lighting control selection

The tabletop lamp dimmer and the plug-in dimming module both provide control of task lighting and the ability for remote control.

### 5. Plug load control selection

Use the PowPak plug-in appliance module to directly control plug loads, or the PowPak relay module with Softswitch® to switch receptacles.

### 6. Third-party integration control selection

The PowPak contact closure output module is designed for spaces where third-party integration is desired (eg. security or A/V systems).

### 7. Stairwell fixture section

The PowPak stairwell fixture allows for occupancy/vacancy sensing to dim fluorescent lighting in stairwells.

### 8. Wireless control selection

Use a Pico® wireless control anywhere in the space to control loads with the touch of a button.

## Primary Controls

The main devices in this lighting control system handle the power of lighting loads and distribute commands from sub-controls and sensors to lighting loads. All components communicate using Lutron reliable Clear Connect® RF technology.

### PowPak module



POWERED BY
100V
120V
110–127V
127V (NOM)
200V
277V
220–240V

FREQUENCY
315MHz
434MHz
434 limited channel MHz
868 limited channel MHz

BACKBOX
Junction box

- Models available for dimming with EcoSystem®, as well as for switching
- Dimming module with EcoSystem is designed for applications that require dimming of fluorescent and LED fixtures; controls up to 32 EcoSystem ballasts or drivers
- Relay module allows for general purpose switching of lighting, motors, and receptacles
- Mounts to a standard junction box, 1/2" NPT knock-out
- W: 2.82 in (72 mm)  
H: 3.42 in (87 mm)  
D: 1.25 in (32 mm)



### PowPak® stairwell fixture



POWERED BY
120V
110V-127V
277V

FREQUENCY
434MHz
434 limited channel MHz

- Incorporates an integral lighting control device and a Lutron digital dimming ballast that is programmed to occupied and unoccupied light levels
- Ceiling or wall surface mount
- Available in 2, 3, or 4 ft, 1 or 2 lamp, and T8, T8 reduced wattage, T5HE, or T5HO lamp options
- 4 ft fixture:  
W: 51.13 in (1,299 mm)  
H: 4.38 in (111 mm)  
D: 3.88 in (98 mm)

### Rania® wireless RF switch



POWERED BY
220-240V
230V CE

FREQUENCY
865MHz
868MHz
868 limited channel MHz

BACKBOX
Round or Square

- Used for applications in which a local switch already exists
- Communicates wirelessly to up to 9 transmitting devices (Radio Powr Savr sensors and/or Pico wireless controls)
- Simple button-press programming
- Available in 12 finishes
- W: 3.38 in (86 mm)  
H: 3.38 in (86 mm)  
D: 0.83 in (21 mm)  
Profile: 0.28 in (7 mm)

### Maestro Wireless® dimmer and switch



POWERED BY
100V
120V
110-127V
127V (NOM)
200V
277V

FREQUENCY
315MHz
434MHz

BACKBOX
U.S. style

- Used for applications in which a local switch already exists
- Communicates wirelessly to up to 9 transmitting devices (Radio Powr Savr™ sensors and/or Pico wireless controls)
- Simple button-press programming
- Available in 27 finishes
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.13 in (30 mm)  
Profile: 0.31 in (8 mm)

### Plug-in controls






POWERED BY
120V
110-127V
127V (NOM)











  

FREQUENCY
434MHz






- Lamp dimmer, plug-in dimming module, or plug-in appliance module available
- Communicates wirelessly to up to 9 transmitting devices (Radio Powr Savr sensors and/or Pico wireless controls)
- Available in White or Black
- Maestro Wireless tabletop lamp dimmer  
W: 2.44 in (62 mm)  
H: 3.25 in (83 mm)  
Top D: 0.94 in (24 mm)  
Bottom D: 0.69 in (18 mm)
- PowPak plug-in modules  
W: 2.30 in (58 mm)  
H: 3.30 in (84 mm)  
D: 1.20 in (30 mm)

**Energi TriPak  
dimming and switching  
load summary**

					
<b>PowPak® dimming module with EcoSystem®</b>		<b>PowPak relay module with Softswitch®</b>		<b>Rania® wireless switch</b>	
<b>Load voltages</b>					
110–127V 127V (NOM) 120V 277V 220–240V	100V 200V 220–240V	100V 110–127V 127V (NOM) 120V 277V 220–240V			220–240V

<b>Dimmed loads</b>					
	Incandescent/halogen	<b>BMJ + WBX</b>			
	Magnetic low-voltage	<b>BMJ + WBX</b>			
	Electronic low-voltage	<b>BMJ + WBX</b>			
	Fluorescent and LED (3-wire)	<b>BMJ, BMF</b>			
	Fluorescent and LED (0–10V)	<b>LMF</b>			
	Fluorescent and LED (PWM)				
	Tu-Wire® fluorescent				
	LED (2-wire forward phase)				
	CFL/LED (screw-base)	<b>BMJ + WBX</b>			
	Neon/cold cathode	<b>BMJ + WBX</b>			
	Fluorescent and LED (EcoSystem®)	●	●		
	Fluorescent and LED (DALI)				
<b>Switched loads</b>					
	Non-dim lighting (loads above)			●	●
	HID			●	●
	Motor loads			●	●
	Fan loads			●	
	Appliance loads			●	

● Compatible load control (no interfaces)	<b>BMF:</b> EcoSystem fixture module
<b>BMJ:</b> EcoSystem dimming power module	<b>LMF:</b> EcoSystem to 0–10V interface
<b>WBX:</b> Phase-adaptive power module with 3-wire input	<b>TVI:</b> 0–10V interface
	<b>PWM:</b> Pulse width modulation interface

 Maestro Wireless® dimmer		 Maestro Wireless® switch		 Maestro Wireless tabletop lamp dimmer		 PowPak® plug-in dimming module		 PowPak plug-in appliance module	
110–127V 127V (NOM) 120V	277V	100V 200V	100V 120V 200V 277V	110–127V 127V (NOM) 120V	110–127V 127V (NOM) 120V	110–127V 127V (NOM) 120V	110–127V 127V (NOM) 120V		
●	<b>WBX</b>	●		●	●				
●	<b>WBX</b>	●		●	●				
●	<b>WBX</b>								
●	●								
<b>TVI</b>	<b>TVI</b>								
<b>PWM</b>	<b>PWM</b>								
●									
●									
<b>WBX</b>	<b>WBX</b>								
●									
			●	●	●		●		●
			●				●		●
			●				●		●
			●				●		●
									●

## Sub-controls

Sub-controls are accessory components that provide additional control locations for increased convenience.

### Pico® wireless control



POWERED BY
Battery

FREQUENCY
315MHz
434MHz
434MHz Limited channel
865MHz
868MHz
868MHz Limited channel

- Controls scenes and zones of light
- Four button configurations available with options for preset and raise/lower
- Can be a wall-mount, tabletop, car visor or hand-held control
- Available in 7 finishes
- W: 1.30 in (33 mm)  
H: 2.60 in (66 mm)  
D: 0.31 in (8 mm)

## Ballasts and Drivers

Ballasts and drivers are required to dim fluorescent and/or LED lighting. The EcoSystem® digital link allows for rezoning without rewiring.

### EcoSystem ballast



POWERED BY
120V
110–127V
127V NOM
220–240V
277V

- Continuous, flicker-free dimming from 100% to 10%
- Models available for T8, T8 reduced wattage, T5, T5 reduced wattage and T5HO lamps
- Wired sensors can connect directly to the ballast
- Available with EcoSystem digital link or 3-wire control

### EcoSystem H-Series ballast



POWERED BY
120V
110–127V
127V NOM
220–240V
230V CE
277V
347V

- Continuous flicker free dimming from 100% to 1%
- Models available for T8, T5, and T5HO lamps
- Available with EcoSystem digital link

### EcoSystem ballasts for compact fluorescent lamps (CFL)



- Continuous, flicker-free dimming from 100% to 10%
- Available with EcoSystem digital link or 3-wire control

POWERED BY
120V
110–127V
127V NOM
220–240V
277V

### Hi-lume ballast



- Continuous flicker free dimming from 100% to 1%
- Models available for T5HO lamps and T4 CFLs
- Available with 3-wire control

POWERED BY
120V
110–127V
277V

### Hi-lume 3D ballast



- Continuous, flicker-free dimming from 100% to 0.3% for T8, T5 and T5HO lamps, and 5% for T5 twin-tube and T5HO 80W lamps
- Available with EcoSystem digital link or 3-wire control

POWERED BY
120V
110–127V
127V NOM
220–240V
277V

### Hi-lume A-Series LED driver



- Continuous, flicker-free dimming from 100% to 1%
- Models available for LED light engines up to 40W, constant current or constant voltage
- Available with EcoSystem digital link, 3-wire or 2-wire forward phase control

POWERED BY
120V
110–127V
127V NOM
220–240V
277V

## Sensors

Wireless sensors automatically control lights based on the occupancy/vacancy of the space or the presence of usable daylight.

### Radio Powr Savr™ wireless occupancy/vacancy sensors



POWERED BY
Battery

FREQUENCY
315MHz (ceiling-mount only)
434MHz
434 limited channel MHz
865MHz (ceiling-mount only)
868MHz (ceiling-mount only)
868 limited channel MHz (ceiling-mount only)

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Models available as occupancy/vacancy or vacancy only
- Passive infrared (PIR) with Lutron exclusive XCT technology
- 10-year battery life
- Available in White
- Ceiling-mount:
  - Diameter: 3.57 in (91 mm)
  - Depth: 1.13 in (29 mm)
- Wall-mount:
  - W: 1.80 in (46 mm)
  - H: 4.35 in (110 mm)
  - D: 1.35 in (34 mm)

### Radio Powr Savr wireless daylight sensor



POWERED BY
Battery

FREQUENCY
315 MHz
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Automatically adjusts lighting zones based on amount of daylight entering a space
- Ceiling-mounted
- 10-year battery life
- Available in White
- Diameter: 1.60 in (41 mm)  
Depth: 0.70 in (17 mm)

# Control interface modules

Combine Lutron lighting controls with other room and building systems for advanced integration. Control interfaces transmit information but do not directly control lighting loads.

## PowPak™ contact closure output module



POWERED BY
120V
110–127V
127V NOM
277V
220–240V

FREQUENCY
315 MHz
434 MHz
434 limited channel MHz
868 limited channel MHz

BACKBOX
Junction box

- Single dry contact closure device
- Communicates wirelessly with up to 9 Pico® wireless controls, 6 Radio Powr Savr™ occupancy sensors and 1 Radio Powr Savr daylight sensor
- Mounts to a standard junction box, 1/2" NPT knock-out
- W: 2.82 in (72 mm)  
H: 3.42 in (87 mm)  
D: 1.25 in (32 mm)



This scene-based control system is perfect for single rooms in residential and commercial applications.

### Feature highlights

- Adjustable preset scenes
- Occupancy sensing
- Daylight harvesting
- On-site programming via visual display user interface
- AV integration
- Shade integration
- Timeclock

### Typical applications

- Home theaters
- Living rooms
- Family rooms
- Media rooms
- Conference rooms
- Small restaurants
- Lecture halls



**GRAFIK Eye QS**  
main unit



Aliante® demi  
sconce by Ivalo®



Download the connection diagrams  
for GRAFIK Eye QS



Radio Powr Savr™ wireless occupancy/vacancy sensor



Sivoia® QS drapery track and roller shade



RS232/Ethernet interface (in cabinet)



Pico® wireless controls

## Typical system components and communication

### Primary controls



GRAFIK Eye QS  
main unit

### Sub-controls



Pico® wired and  
wireless controls



seeTouch® QS  
keypad



International seeTouch  
QS wallstation

### Sensors



Radio Powr Savr™ wireless  
ceiling-mount occupancy/  
vacancy sensor



Radio Powr Savr wireless  
corner-, hallway-, and  
wall-mount occupancy/  
vacancy sensor




Radio Powr Savr  
wireless daylight sensor




Wired occupancy sensor



Wired daylight sensor

 Wireless Radio Frequency (RF) communication

 Infrared (IR) communication

 Wired communication

## Control interface modules



QS RS232/  
Ethernet interface



QS contact  
closure interface



QS DMX  
interface



Emergency  
lighting interface

## Third-party devices



A/V equipment  
(by others)



Security system  
(by others)



Theatrical equipment  
(by others)

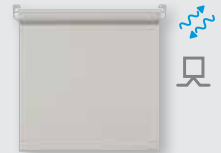


IR remote control  
(by others)



Touch panel control  
(by others)

## Shades



Sivoia® QS  
wired/wireless  
shades



QS smart panel  
power supply

A QS system can have up to 100 devices, such as GRAFIK Eye control units, QS keypads, QS shades, or QS control interfaces; a QS system can have up to 100 zones (shade or lighting)

**For illustration purposes only. Consult specification submittals and/or installation instructions for wiring information.**

## Understanding how to build a GRAFIK Eye QS system

### 1. Select a GRAFIK Eye QS main unit

Identify the number of lighting and shading zones in the space and the load types to be controlled.

### 2. Select keypads

Choose the keypad style and button configuration required and determine if additional points of control are required.

### 3. Select shading components

Wired and wireless shading systems are available that offer convenient control of daylight at the touch of a button.

### 4. Select energy-saving devices

Wired and wireless options are available for occupancy/vacancy and daylight sensors to provide automatic energy savings.

### 5. Select integration devices

Determine the type of integration required to connect to additional room and building systems.

### 6. Programming

Program from hardware or via PC-based software.

## Primary Controls

The main devices in this lighting control system handle the power for lighting loads and distribute commands to sub-controls, sensors, shades, control interfaces, and lighting loads.

### GRAFIK Eye QS main unit



POWERED BY
100V
120V
110–127V
127V NOM
220–240V
230V CE

FREQUENCY
434MHz
434 limited channel MHz
865MHz
868MHz
868 limited channel MHz

BACKBOX
U.S. style

- Preset control of 3, 4 or 6 lighting zones and 0, 1, 2 or 3 shade groups
- Pico wireless controls, Radio Powr Savr™ sensors, and Sivoia® QS Wireless shades communicate via radio frequency to wireless units (wired only models available)
- Provides wired inputs to occupancy/vacancy and daylight sensors, and includes an integrated astronomical timeclock
- Available in 41 finishes
- W: 9.38 in (239 mm)  
H: 4.69 in (119 mm)  
D: 2.00 in (51 mm)  
Profile: 0.38 in (10 mm)





**GRAFIK Eye QS dimming and switching load summary**



**GRAFIK Eye QS main unit**

\* Requires 120V control input

Load voltages	
120V 110–127V 127V (NOM)	277V*

Dimmed loads		
Incandescent/halogen	●	PA
Magnetic low-voltage	●	PA
Electronic low-voltage	PA	PA
Fluorescent and LED (3-wire)	3F	3F
Fluorescent and LED (0–10V)	TVI	TVI
Fluorescent and LED (PWM)	PWM	PWM
Tu-Wire® fluorescent	●	
LED (2-wire forward phase)	●	
CFL/LED (screw-base)	PA	PA
Neon/cold cathode	●	
Fluorescent and LED (EcoSystem®)	See GRAFIK Eye QS with EcoSystem/DALI	
Fluorescent and LED (DALI)		
Cree® LR4/LR6 LED	●	
Switched loads		
Non-dim lighting (loads above)	●	SW, TVI, PWM
HID	SW, TVI, PWM	SW, TVI, PWM
Motor loads	SW, TVI, PWM	SW, TVI, PWM
Fan loads	SW, TVI, PWM	SW, TVI, PWM

Power interfaces	
●	Compatible load control (no interfaces)
<b>3F:</b>	3-wire fluorescent power module
<b>ELVI-CE:</b>	Electronic low-voltage interface (CE)
<b>ELVI-AU:</b>	Electronic low-voltage interface (AU)
<b>FDBI-AU:</b>	Fluorescent dimming ballast interface (AU)
<b>PA:</b>	Phase-adaptive power module
<b>PA-JA:</b>	Phase-adaptive power module for Japan
<b>PWM:</b>	Pulse width modulation interface
<b>PWM-JA:</b>	Pulse width modulation for Japan
<b>SW:</b>	Switching power module
<b>SW-JA:</b>	Phase-adaptive power module for Japan
<b>TVI:</b>	0–10V interface
<b>TVI-JA:</b>	0–10V interface for Japan
<b>PB-CE:</b>	Power booster (CE)
<b>PB-AU:</b>	Power booster (AU)



<b>GRAFIK Eye QS main unit</b>		
100V	220–240V	230V (CE)
●	●	●
●	●	●
<b>PA-JA</b>	<b>ELVI-AU</b>	<b>ELVI-CE</b>
	<b>FDBI-AU</b>	
<b>TVI-JA</b>	<b>TVI</b>	<b>TVI</b>
<b>PWM-JA</b>	<b>PWM</b>	
<b>PA-JA</b>	<b>PB-AU, ELVI-AU</b>	<b>PB-CE, ELVI-CE</b>
●	●	●
See GRAFIK Eye QS with EcoSystem/DALI		
●	●	●
<b>SW-JA, TVI-JA, PWM-JA</b>	<b>TVI, PWM</b>	<b>TVI</b>
<b>SW-JA, TVI-JA, PWM-JA</b>	<b>TVI, PWM</b>	<b>TVI</b>
<b>SW-JA, TVI-JA, PWM-JA</b>	<b>TVI, PWM</b>	<b>TVI</b>

## Sub-controls

Sub-controls are accessory components that provide additional control locations for increased convenience.

### seeTouch® QS keypad



<b>POWERED BY</b>
QS link 1 PDU
<b>BACKBOX</b>
U.S. style

- Models available with 1–7 buttons
- Buttons can be used for scene recall, zone toggle, zone lockout, fine tuning, panic, sequencing, partitioning, and shade control
- Select models available with all off and/or raise/lower button and infrared (IR) receiver
- Available in 41 finishes
- Mounts in a standard 1-gang U.S. backbox
- W: 2.75 in (70 mm)  
H: 4.56 in (116 mm)  
D: 1.06 in (27 mm)  
Profile: 0.31 in (8 mm)

### International seeTouch QS wallstation



<b>POWERED BY</b>
QS link 1 PDU
<b>BACKBOX</b>
Round or square

- Models available with 2–10 programmable buttons
- Buttons can be used for scene recall, zone toggle, zone lockout, fine tuning, panic, sequencing, partitioning, and shade control
- Select models available with all off and/or raise/lower button and infrared (IR) receiver
- Available in 12 finishes
- W: 3.38 in (86 mm)  
H: 3.38 in (86 mm)  
D: 1.06 in (27 mm)  
Profile: 0.31 in (8 mm)

### Pico® wired control



<b>POWERED BY</b>
QS link 1/2 PDU (with QSM)
<b>BACKBOX</b>
U.S. style

- Controls scenes and zones of light
- Four button configurations available with options for preset and raise/lower
- Available in 5 finishes
- Connects to system via QS sensor module
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.98 in (50 mm)  
Profile: 0.31 in (8 mm)

### EcoSystem® wallstation



<b>POWERED BY</b>
QS link 1 PDU (with QSM)
<b>BACKBOX</b>
U.S. style

- 4-button model with scene and zone toggle functionality
- IR receiver allowing convenient control of lights via IR remote control
- Available in 4 colors finishes
- Mounts in a standard 1-gang U.S. backbox
- Connects to system via QS sensor module
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.56 in (40 mm)  
Profile: 0.31 in (8 mm)

**Pico® wireless control**



POWERED BY
Battery
FREQUENCY
434MHz Limited channel
434MHz Limited channel
865MHz
868MHz
868MHz Limited channel

- Controls a single light or shade, or zone of lights or group of shades
- Four button configurations available with options for preset and raise/lower
- Can be a wall-mount, tabletop, car visor or hand-held control
- Available in 7 finishes
- W: 1.30in (33mm)  
H: 2.60in (66mm)  
D: 0.31in (8mm)

**QS key switch**



POWERED BY
QS link 1 PDU
BACKBOX
U.S. style

- Provides key-only access to lighting controls; ideal for public spaces
- Can recall preset light levels, fine tune, enable/disable, open/close, and start/stop
- Available in 8 finishes
- W: 2.72in (69mm)  
H: 4.57in (116mm)  
D: 1.77in (45mm)  
Profile: 0.28in (7mm)

**Infrared (IR) remote control**



POWERED BY
Battery

- Models available with 4 or 8 scene control
- Offers master raise/lower and all off
- Available in White and Black
- W: 1.50in (38mm)  
H: 5.69in (145mm)  
D: 0.88in (22mm)

**QS IR eye**



POWERED BY
QS link 1/2 PDU

- Provides IR control via Lutron IR remote controls and IR integration
- Allows control via third-party party IR remotes
- Integrates shade and lighting devices via a single IR eye
- Available in White
- Diameter: 1.19in (30mm)  
Depth: 0.75in (19mm)  
Cord length: 7.25in (184mm)

## Ballasts and Drivers

Ballasts and drivers are required to dim fluorescent and/or LED lighting.

### EcoSystem® ballast



- Continuous, flicker-free dimming from 100% to 10%
- Models available for T8, T8 reduced wattage, T5, T5 reduced wattage and T5HO lamps
- Wired sensors can connect directly to the ballast
- Available with EcoSystem digital link or 3-wire control

POWERED BY
120V
110–127V
127V NOM
220–240V
277V

### Hi-lume® 3D ballast



- Continuous, flicker-free dimming from 100% to 0.3% for T8, T5 and T5HO lamps, and 5% for T5 twin-tube and T5HO 80W lamps
- Available with EcoSystem digital link or 3-wire control

POWERED BY
120 V
110–127 V
127 V NOM
220–240 V
277 V

### EcoSystem ballasts for compact fluorescent lamps (CFL)



- Continuous, flicker-free dimming from 100% to 10%
- Available with EcoSystem digital link or 3-wire control

POWERED BY
120 V
110–127 V
127 V NOM
220–240 V
277 V

### Hi-lume ballast



- Continuous flicker free dimming from 100% to 1%
- Models available for T5HO lamps and T4 CFLs
- Available with 3-wire control

POWERED BY
120 V
110–127 V
277 V

**Tu-wire® ballast**



- Continuous, flicker-free dimming from 100% to 5%
- Models available for T8 lamps and T4 compact fluorescent lamps
- Available with Tu-wire control

POWERED BY
120 V
110–127 V

**Hi-lume® A-Series LED driver**



- Continuous, flicker-free dimming from 100% to 1%
- Models available for LED light engines up to 40W, constant current or constant voltage
- Available with EcoSystem digital link, 3-wire or 2-wire forward phase control

POWERED BY
120 V
110–127 V
127 V NOM
220–240 V
277 V

## Sensors

Sensors add convenience by detecting occupancy/vacancy, daylight, and partitioning, and adjust the light accordingly.

### Wireless

#### Radio Powr Savr™ wireless occupancy/vacancy sensor



POWERED BY
Battery

FREQUENCY
315MHz (ceiling mount only)
434MHz
434 limited channel MHz
865MHz (ceiling mount only)
868MHz (ceiling mount only)
868 limited channel MHz

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Models available as occupancy/vacancy or vacancy only
- Passive infrared (PIR) with Lutron exclusive XCT™ technology
- 10-year battery life
- Available in White
- Ceiling-mount:
  - Diameter: 3.57 in (91 mm)
  - Depth: 1.13 in (29 mm)
- Wall-mount:
  - W: 1.80 in (46 mm)
  - H: 4.35 in (110 mm)
  - D: 1.13 in (29 mm)

#### Radio Powr Savr wireless daylight sensor



POWERED BY
Battery

FREQUENCY
315MHz
434MHz
434 limited channel MHz
865MHz
868MHz
868 limited channel MHz

- Sensor automatically adjusts lighting zones based on amount of daylight entering a space
- Ability to disable on a scene-by-scene basis
- Ceiling mounted
- 10-year battery life
- Diameter: 1.60 in (41 mm)
- Depth: 0.70 in (17 mm)

### Wired

#### Wired LOS-C and LOS-W series occupancy sensor



POWERED BY
20–24 V DC from power pack or GRAFIK EYE QS main unit or QS link 2 PDUs (with QSM)

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Sensor technology options include PIR, ultra-sonic, and dual technology
- Connects to system via QSM or directly to contact closure input on GRAFIK Eye QS
- Wall-mount and ceiling-mount models available
- Available in White
- Ceiling-mount:
  - Diameter: 4.50 in (114 mm)
  - Depth: 1.40 in (38 mm)
- Wall-mount:
  - W: 2.70 in (69 mm)
  - H: 5.25 in (133 mm)
  - D: 3.90 in (99 mm)

#### Wired daylight sensor



POWERED BY
QS link1/2 PDU (with QSM)

- Sensor automatically adjusts lighting zones based on amount of daylight entering a space
- Ability to disable on a scene-by-scene basis
- Includes integral infrared (IR) receiver
- Ceiling-mounted
- Available in White
- Diameter: 1.18 in (30 mm);
- Depth: 1.25 in (32 mm)
- Profile: 0.70 in (18 mm)

**Wired**

**Wired high-bay sensor**



POWERED BY
20V–24 DC power pack or GRAFIK Eye QS main unit or QS link, 2 PDUs (with QSM)

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- PIR sensor designed for use in high-bay applications
- Maximum mounting height 45 ft (14 m)
- Surface-mount and end-mount models available
- Available in White
- 180° and 360° surface-mount  
Diameter: 4.00 in (102 mm);  
Depth: 1.50 in (38 mm)  
180° end-mount  
W: 4.00 in (102 mm);  
H: 4.50 in (114 mm)  
D: 1.50 in (38 mm)  
360° end-mount  
W: 3.60 in (91 mm);  
H: 4.40 in (112 mm)  
D: 2.00 in (51 mm)

**IR partition status sensor**



POWERED BY
External transformer (12–24 V DC)

- IR transmitter/receiver pair detects open/closed status of partition and coordinates lighting preset functions
- Sensors must be mounted in a position where the partition separates the transmitter and receiver when the partition is closed
- Requires QS contact closure interface for operation
- Surface-mounted
- Available in White
- W: 4.56 in (116 mm)  
H: 2.69 in (68 mm)  
D: 1.50 in (38 mm)



## Control interface modules

Use control interfaces to combine Lutron light controls with third-party devices and systems for advanced integration. Interfaces may also provide connection points for other Lutron devices.

### QS RS232/Ethernet interface



**POWERED BY**  
QS link 2 PDUs  
or  
external  
transformer  
(12–24 V DC)

- Allows integration with a touch screen, PC, A/V system, or other digital equipment that supports RS232 communication, or TCP/IP communication over Ethernet
- Monitor lighting scenes and levels, and shade positions
- Features include raise and lower of zones, scene activation, sequencing, zone and scene lockout, and shade control
- W: 4.26 in (108 mm)  
H: 5.26 in (134 mm)  
D: 1.06 in (27 mm)

### QS DMX interface



**POWERED BY**  
QS link 2 PDUs  
or  
external  
transformer  
(12–24 V DC)

- Allows zones on a GRAFIK Eye QS main unit to control DMX 512-controlled devices
- Any zone on the GRAFIK Eye QS main unit can be mapped to either a single DMX 512 channel or to three RGB DMX 512 channels
- W: 4.26 in (108 mm)  
H: 5.26 in (134 mm)  
D: 1.06 in (27 mm)

### QS contact closure interface



**POWERED BY**  
QS link 3 PDUs  
or  
external  
transformer  
(12–24 V DC)

- Provides five contact closure inputs and five contact closure outputs
- Allows integration with third-party equipment such as motion/occupancy sensors, timeclocks and moveable walls
- Features include scene selection, partitioning, occupancy sensing, zone toggle, sequencing, panic, control lockout, timeclock enable/disable, after-hours start/stop, and shade control
- W: 4.26 in (108 mm)  
H: 5.26 in (134 mm)  
D: 1.06 in (27 mm)

### QS motor group controller (DIN-rail)



**POWERED BY**  
120–240V  
120–240V (CE)

- Allows seamless integration of AC blinds, shades, louvers, projection screens, or any compatible AC motor
- Provides four independently controllable AC raise/lower outputs from one common AC input feed
- W: 6.40 in (162 mm)  
H: 3.50 in (90 mm)  
D: 2.40 in (61 mm)

### QS sensor module



<b>POWERED BY</b>
QS link 3 PDUs
<b>FREQUENCY</b>
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Integrates additional Lutron wireless and wired sensors and controls through the QS link
- Connects up to four Lutron wired sensors or controls and ten each of the wireless devices—occupancy/vacancy sensors, daylight sensors and Pico® wireless controls
- Junction box or ceiling-mount options available
- Available in White
- Diameter: 4.04 in (103 mm)  
Depth: 1.55 in (39 mm)

### Emergency lighting interface



<b>POWERED BY</b>
20–24 V DC from GRAFIK Eye QS main unit or external transformer

- Turns all lighting loads to “full on” output
- Senses the normal line-voltage on all three phases of power
- Provides inputs for a Fire Alarm Control panel
- UL 924 listed as “Emergency Lighting and Power Equipment”
- W: 5.00 in (127 mm)  
H: 7.75 in (197 mm)  
D: 2.50 in (64 mm)

## Shading systems

Sivoia® QS wired and wireless shading systems offer convenient control of daylight at the touch of a button.

### Sivoia QS wired/wireless shades



POWERED BY
Battery or external transformer (12 or 24V DC)

FREQUENCY
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Shades offer ultra-quiet precision control of daylight
- Styles include:
  - Roller shades
  - Tensioned shades
  - Roman shades with CERUS® safety technology
  - Drapery tracks
  - Kirbé® vertical drapery systems
  - Venetian blinds
  - Insulating honeycomb shades
- Includes a wide variety of fabric offerings to meet every need
- Wireless shades communicate directly with GRAFIK Eye via Lutron reliable Clear Connect® radio frequency (RF) technology
- Wired shades communicate via the QS link

### Sivoia QS power supply



POWERED BY
100V
120V
110–127V
127V NOM
220–240V
230V CE

- 12 or 24V supply that provides power to shade and drapery drive units
- Various form factors available

## Software and programming options

GRAFIK Eye QS systems are programmed via the visual display on the GRAFIK Eye QS main unit or via PC-based programming.

### Button-press programming at the main unit



- Easy, intuitive programming screen for initial programming and future adjustments
- Use the information screen on the GRAFIK Eye QS main unit to quickly and easily program load settings, scenes, timeclock events and more; adjust settings in the space without the need for other devices

### Software-based programming



- Create custom configurations with easily downloadable PC tool
- Utilize the tool to quickly copy and paste programming for multi-room applications
- Connects directly to USB port on front of GRAFIK Eye QS main unit

This scene-based control system is ideal for single rooms or partitioned spaces in commercial applications.

### Feature highlights

- Daylight harvesting
- Adjustable preset scenes
- Digitally addressable fluorescent dimming ballasts and LED drivers provide flexibility for zoning, daylighting, and reconfiguration
- On-site programming via visual display user interface
- Shade integration
- Timeclock

### Typical applications

- Conference rooms
- Lecture halls
- Boardrooms
- Atriums
- Lobbies
- Retail stores
- Restaurants



Radio Powr Savr™  
wireless daylight sensor



Sivoia® QS wireless  
roller shade

Download the connection diagrams for  
GRAFIK Eye QS with EcoSystem /DALI



L'ale® pendant  
by Ivalo®



**EcoSystem fluorescent  
dimming ballast  
(mounted in fixture)**



**GRAFIK Eye QS  
with EcoSystem  
main unit**



Pico® wireless controls



Radio Powr Savr wireless  
occupancy/vacancy sensor



seeTouch® QS  
keypad

## Typical system components and communication

### Primary controls



GRAFIK Eye QS with EcoSystem main unit

### Sub-controls



Pico® wired and wireless controls



seeTouch® QS keypad



International seeTouch QS wallstation

### Ballasts and drivers

(Up to 64 digital ballasts or drivers communicate via EcoSystem digital link to GRAFIK Eye QS with EcoSystem main unit)



EcoSystem ballast



EcoSystem H-Series ballast



Hi-lume® 3D ballast



Hi-lume A-Series LED driver

### Sensors



Radio Powr Savr™ wireless ceiling-mount occupancy/vacancy sensor



Radio Powr Savr wireless corner-, hallway- and wall-mount occupancy/vacancy sensor



Radio Powr Savr wireless daylight sensor



Wired occupancy sensor



Wired daylight sensor



## Control interfaces



QS RS232/  
Ethernet interface



QS contact  
closure interface



QS DMX  
interface



Emergency  
lighting interface

## Third-party devices



A/V equipment  
(by others)



Security system  
(by others)



Theatrical equipment  
(by others)



IR remote control  
(by others)



Touch panel control  
(by others)

## Shades



Sivoia® QS  
wired/wireless  
shades




QS smart panel  
power supply

A QS system can have up to 100 devices, such as GRAFIK Eye control units, QS keypads, shades, or QS control interfaces; a QS system can have up to 100 zones (shade or lighting)

**For illustration purposes only. Consult specification submittals and/or installation instructions for wiring information.**

 Wireless Radio Frequency (RF) communication

 Infrared (IR) communication

 Wired communication

## Understanding how to build a GRAFIK Eye QS with EcoSystem/DALI system

### 1. Select a GRAFIK Eye QS main unit

Identify the number of lighting and shading zones in the space and the load types to be controlled.

### 2. Select keypads

Choose the keypad style and button configuration required and determine if additional points of control are needed.

### 3. Select shading components

Wired and wireless shading systems are available that offer convenient control of daylight at the touch of a button.

### 4. Select energy-saving devices

Wired and wireless options are available for occupancy/vacancy and daylight sensors to provide automatic energy savings.

### 5. Select integration devices

Determine the type of integration required to connect to additional room and building systems.

### 6. Programming

Program from hardware or via PC-based software

## Primary Controls

The main devices in this light control system handle the power for lighting loads and distribute commands to sub-controls, sensors, shades, control interfaces, and lighting loads.

### GRAFIK Eye QS with EcoSystem/DALI main unit



POWERED BY
120V
110-127V
127V NOM
220-240V
230V CE

FREQUENCY
434MHz
434 limited channel MHz
868MHz
868MHz Limited channel

BACKBOX
U.S. style

- Preset control of 6, 8, or 16 lighting zones and 0, 1, 2, or 3 shade groups
- Able to control digital dimming ballasts and/or drivers directly without the need for interfaces
- Pico® wireless controls, Radio Powr Savr sensors and Sivoia QS wireless shades communicate via radio frequency to wireless units (wired only models available)
- DALI versions also available with KNX interface for seamless connection to KNX control systems
- Includes astronomic timeclock and connections to occupancy/vacancy and daylight sensors
- Provides wired inputs to occupancy/vacancy and daylight sensors and integrated astronomical timeclock
- Available in 41 finishes
- W: 9.38 in (239 mm)  
H: 4.69 in (119 mm)  
D: 2.00 in (51 mm)  
Profile: 0.38 in (10 mm)



**GRAFIK Eye QS with EcoSystem/DALI dimming and switching load summary**



**GRAFIK Eye QS with EcoSystem main unit**

**Load voltages**

120V 110–127V 127V (NOM)	277V <sup>1</sup>
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<sup>1</sup> Requires 120V control input  
<sup>2</sup> To control 347V loads, use GRAFIK Eye QS main unit fed from 120V/220-240V.

<b>Dimmed loads</b>		
Incandescent/halogen	●	PA
Magnetic low-voltage	●	PA
Electronic low-voltage	PA	PA
Fluorescent and LED (3-wire)	3F, BMF, BMJ	3F, BMF, BMJ
Fluorescent and LED (0–10V)	TVI, LMF	TVI, LMF
Fluorescent and LED (PWM)	PWM	PWM
Tu-Wire <sup>®</sup> fluorescent	●	
LED (2-wire forward phase)	●	
CFL/LED (screw-base)	PA	PA
Neon/cold cathode	●	
Fluorescent and LED (EcoSystem)	●	●
Fluorescent and LED (DALI)		
Cree <sup>®</sup> LR4/LR6 LED	●	
<b>Switched loads</b>		
Non-dim lighting (loads above)	●	SW, TVI, PWM, XPJ
HID	SW, TVI, PWM	SW, TVI, PWM
Motor loads	SW, XPJ, TVI, PWM	SW, TVI, PWM, XPJ
Fan loads	SW, XPJ, TVI, PWM	SW, TVI, PWM, XPJ

**Power interfaces**

- Compatible load control (no interfaces)
- PA:** Phase-adaptive power module
- 3F:** 3-wire fluorescent power module
- SW:** Switching power module
- XPJ:** EcoSystem switching power module
- ELVI-AU:** Electronic low-voltage interface (AU)
- PB-AU:** Power booster (AU)

- FDBI-AU:** Fluorescent dimming ballast interface (AU)
- TVI:** 0–10V interface
- LMF:** EcoSystem to 0–10V interface
- PWM:** Pulse width modulation interface
- BMF:** EcoSystem fixture module
- BMJ:** EcoSystem dimming power module

<b>GRAFIK Eye QS with EcoSystem main unit</b>		 <b>GRAFIK Eye QS for DALI main unit</b>
220–240V	347V <sup>2</sup>	220–240V 230V (CE)
●		
●		
ELVI-AU		
FDBI-AU		
TVI		
PWM		
PB-AU, ELVI-AU		
●		
●	●	
		●
●		
TVI, PWM		
TVI, PWM		
TVI, PWM		



## Sub-controls

Sub-controls are accessory components that provide additional control locations for increased convenience.

### seeTouch® QS keypad



<b>POWERED BY</b>
QS link 1 PDU
<b>BACKBOX</b>
U.S. style

- Models available with 1-7 programmable buttons
- Buttons can be used for scene recall, zone toggle, zone lockout, fine tuning, panic, sequencing, partitioning, and shade control
- Select models available with all off and/or raise/lower button and infrared (IR) receiver
- Available in 41 finishes
- W: 2.75 in (70 mm)  
H: 4.56 in (116 mm)  
D: 1.06 in (27 mm)  
Profile: 0.31 in (8 mm)

### International seeTouch QS wallstation



<b>POWERED BY</b>
QS link 1 PDU
<b>BACKBOX</b>
Round or square

- Models available with 2-10 programmable buttons
- Buttons can be used for scene recall, zone toggle, zone lockout, fine tuning, panic, sequencing, partitioning, and shade control
- Select models available with all off and/or raise/lower button and infrared (IR) receiver
- Available in 12 finishes
- W: 3.38 in (86 mm)  
H: 3.38 in (86 mm)  
D: 1.06 in (27 mm)  
Profile: 0.31 in (8 mm)

### Pico® wired control



<b>POWERED BY</b>
Ballast/module with IR input QS link 1/2 PDU (with QSM)
<b>BACKBOX</b>
U.S. style

- Controls scenes and zones of light
- Four button configurations available with options for preset and raise/lower
- Available in 5 finishes
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.98 in (50 mm)  
Profile: 0.31 in (8 mm)

### EcoSystem wallstation



<b>POWERED BY</b>
Ballast/module with IR input QS link 1 PDU (with QSM)
<b>BACKBOX</b>
U.S. style

- 4-button model with scene and zone toggle functionality
- IR receiver allowing convenient control of lights via IR remote control
- Available in 4 color finishes
- Mounts in a standard 1-gang U.S. backbox
- Connects to system via QS sensor module
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.56 in (40 mm)  
Profile: 0.31 in (8 mm)

### Pico® wireless control



POWERED BY
Battery
FREQUENCY
315 MHz
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Controls a single light or shade, or zone of lights or group of shades
- Four button configurations available with options for preset and raise/lower
- Available in 5 finishes
- Can be a wall-mount, tabletop, car visor or hand-held control
- W: 1.30 in (33 mm)  
H: 2.60 in (66 mm)  
D: 0.31 in (8 mm)

### QS keyswitch



POWERED BY
QS link 1 PDU
BACKBOX
U.S. style

- Provides key-only access to lighting controls; ideal for public spaces
- Can recall preset light levels, fine tune, enable/disable, open/close, and start/stop
- Available in 8 finishes
- W: 2.72 in (69 mm)  
H: 4.57 in (116 mm)  
D: 1.77 in (45 mm)  
Profile: 0.28 in (7 mm)

### Infrared (IR) remote control



POWERED BY
Battery

- Models available with 4 or 8 scene control
- Offers master raise/lower and all off buttons
- Available in White and Black
- W: 1.50 in (38 mm)  
H: 5.69 in (145 mm)  
D: 0.88 in (22 mm)

### QS IR eye



POWERED BY
QS link 1/2 PDU

- Provides IR control via Lutron IR remote controls and IR integration
- Allows control via third-party IR remotes
- Integrates shade and lighting devices via a single IR eye
- Available in White
- Diameter: 1.19 in (30 mm)  
Depth: 0.75 in (19 mm)  
Cord length: 7.25 in (184 mm)



## Ballasts and drivers

Ballasts and drivers are required to control fluorescent and/or LED lighting. EcoSystem digital link allows for rezoning without rewiring.

### EcoSystem ballast



POWERED BY
120V
110–127V
127V NOM
220–240V
277V

- Continuous, flicker-free dimming from 100% to 10%
- Models available for T8, T8 reduced wattage, T5, T5 reduced wattage, and T5HO lamps
- Wired sensors can connect directly to the ballast
- Available with EcoSystem digital link or 3-wire control

### EcoSystem H-Series ballast



POWERED BY
120V
110–127V
127V NOM
220–240V
230V
277V
347V

- Continuous, flicker-free dimming from 100% to 1%
- Models available for T8, T5, and T5HO lamps
- Available with EcoSystem digital link only

### EcoSystem ballasts for compact fluorescent lamps (CFL)



POWERED BY
120V
110–127V
127V NOM
220–240V
277V

- Continuous flicker free dimming from 100% to 5% for TY CFLs
- Available with EcoSystem digital link or 3-wire control

### Hi-lume® 3D ballast



POWERED BY
120V
110–127V
127V NOM
220–240V
277V

- Continuous, flicker-free dimming from 100% to 0.3% for T8, T5 and T5HO lamps, and 5% for T5 twin-tube and T5HO 80W models
- Available with EcoSystem digital link or 3-wire control

**Hi-lume ballast**



POWERED BY
120V
110-127V
277V

- Continuous flicker free dimming from 100% to 1%
- Models available for T5HO lamps and T4 CFLs
- Available with 3-wire control

**Hi-lume A-Series LED driver**



POWERED BY
120V
110-127V
220-240V
277V

- Continuous, flicker-free dimming from 100% to 1%
- Efficiency greater than 80% at 40W
- Available with EcoSystem digital link, 3-wire, or forward phase control

**Tu-wire ballast**



POWERED BY
120V
110-127V

- Continuous flicker free dimming from 100% to 5%
- Models available for T8 lamps and T4 CFLs
- Available with Tu-wire control

## Sensors

Wired and wireless sensors add convenience by detecting occupancy/vacancy, daylight, and partitioning and adjust the light accordingly.

### Wireless

#### Radio Powr Savr™ wireless occupancy/vacancy sensor



POWERED BY
Battery

FREQUENCY
315 MHz (ceiling-mount only)
434 MHz
434 limited channel MHz
865 MHz (ceiling-mount only)
868 MHz (ceiling-mount only)
868 limited channel MHz (ceiling-mount only)

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Models available as occupancy/vacancy or vacancy only
- Passive infrared (PIR) with exclusive Lutron XCT™ technology
- Battery included  
10-year battery life
- Available in White
- Ceiling-mount:  
Diameter: 3.57 in (91 mm)  
Depth: 1.13 in (29 mm)  
Wall-mount:  
W: 1.80 in (46 mm)  
H: 4.35 in (110 mm)  
D: 1.13 in (29 mm)

#### Radio Powr Savr wireless daylight sensor



POWERED BY
Battery

FREQUENCY
315 MHz
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Automatically adjusts lighting zones based on amount of daylight entering a space
- Ability to disable on a scene-by-scene basis
- 10-year battery life
- Ceiling-mounted
- Available in white
- Diameter: 1.60 in (41 mm)  
Depth: 0.70 in (17 mm)

### Wired

#### Wired LOS-C and LOS-W occupancy sensor



POWERED BY
20–24 V DC from power pack (Qty 3) or QS main unit (Qty 1) or QS link 2 PDUs (with QSM) or EcoSystem ballast sensor connection

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Sensor technology options include PIR, ultrasonic, and dual technology
- Wall-mount, and ceiling-mount models available
- Available in White
- Ceiling-mount:  
Diameter: 4.50 in (114 mm)  
Depth: 1.40 in (38 mm)  
Wall-mount:  
W: 2.70 in (69 mm)  
H: 5.25 in (133 mm)  
D: 3.90 in (99 mm)

### Wired high-bay occupancy sensors



POWERED BY
20–24 V DC power pack GRAFIK Eye QS main unit QS link 2 PDUs (with QSM) Ballast with sensor connection

- Automatically turns lighting scene/zones on and/or off based
- Passive infrared sensor designed for use in high-bay application
- Maximum mounting height 45 ft (14 m)
- Surface-mount and end-mount models available
- Available in white
- 180° and 360° end-mount  
Diameter: 4 in (102 mm);  
Depth: 1.5 in (38 mm)  
180° end-mount  
W: 4.00 in (102 mm)  
H: 4.50 in (114 mm)  
D: 1.50 in (38 mm)  
360° end-mount  
W: 3.60 in (91 mm)  
H: 4.40 in (112 mm)  
D: 2.00 in (51 mm)

### IR partition status sensor



POWERED BY
External transformer (12–24 V DC)

- IR transmitter/receiver pair detects open/closed status of partition and coordinates lighting preset functions
- Sensors must be mounted in a position where the partition separates the transmitter and receiver when the partition is closed
- Requires QS contact closure interface for operation
- Surface-mounted
- Available in white
- W: 4.56 in (116 mm)  
H: 2.69 in (68 mm)  
D: 1.50 in (38 mm)

### Wired daylight sensor



POWERED BY
20-24 VDC from QS link1/2 PDU (with QSM ballast/module with sensor connection)

- Automatically adjusts lighting zones based on amount of daylight entering a space
- Ability to disable on a scene-by-scene basis
- Includes integral infrared receiver
- Ceiling-mounted
- Available in white
- Diameter: 1.18 in (30 mm);  
Depth: 1.25 in (32 mm)  
Profile: 0.70 in (18 mm)

## Control interface modules

Use interface modules to combine Lutron light controls with 3rd party devices and systems for advanced integration. Interfaces may also provide connection points for other Lutron devices.

### QS RS232/Ethernet interface



POWERED BY
QS link 2 PDUs or External transformer (12–24 V DC)

- Allows integration with a touch screen , PC, A/V system, or other digital equipment that supports RS232 communication, or TCP/IP communication over Ethernet
- Monitor lighting scenes and levels, and shade positions
- Features include raise and lower of zones, scene activation, sequencing, zone and scene lockout, and shade control
- W: 4.26 in (108 mm)  
H: 5.26 in (134 mm)  
D: 1.06 in (27 mm)

### QS sensor module



POWERED BY
QS link 3 PDUs

FREQUENCY
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Integrates additional Lutron wireless and wired sensors and controls through the QS communication link
- Connects up to four Lutron wired sensors or controls and ten each of the wireless devices-occupancy/vacancy sensors, daylight sensors, and Pico wireless controls
- Junction box or ceiling-mount options available
- Available in White
- Diameter: 4.04 in (103 mm)  
Depth: 1.55 in (39 mm)

### QS DMX interface



POWERED BY
QS link 2 PDUs or external transformer (12–24 V DC)

- Allows zones on a GRAFIK Eye QS main unit to control DMX 512-controlled devices
- Any zone of the GRAFIK Eye QS main unit can be mapped to either a single DMX512 channel or to three REB DMX512 channels
- W: 4.26 in (108 mm)  
H: 5.26 in (134 mm)  
D: 1.06 in (27 mm)

### QS contact closure interface



POWERED BY
QS link 3 PDUs or external transformer (12–24 V DC)

- Allows integration with third-party equipment such as motion/occupancy sensors, timeclocks and movable walls
- Features include scene selection, partitioning, occupancy sensing, zone toggle, sequencing, panic, control lockout, timeclock enable/disable, after-hours start/stop, and shade control
- Provides five contact closure inputs and five contact closure outputs
- W: 4.26 in (108 mm)  
H: 5.26 in (134 mm)  
D: 1.06 in (27 mm)

### Emergency lighting interface



POWERED BY
20–24V DC from GRAFIK EYE QS main unit or external transformer

- Turns all lighting loads to “full on” output
- Senses the normal line-voltage on all three phases of power
- Provides inputs for a Fire Alarm control panel
- UL 924 listed as “Emergency Lighting and Power Equipment”
- W: 5.00 in (127 mm)  
H: 7.75 in (197 mm)  
D: 2.50 in (64 mm)

### QS motor group controller (DIN-rail)



POWERED BY
120–240 V 120–240 V (CE)

- Allows seamless integration with AC blinds, shades, louvers, projection screens, or any compatible AC motor
- Provides four independently controllable AC raise/lower outputs from one common AC input feed
- W: 6.40 in (161.7 mm)  
H: 3.50 in (89.7 mm)  
D: 2.40 in (60.6 mm)

## Software and programming options

GRAFIK Eye QS systems are programmed via the visual display on the GRAFIK Eye QS main unit or via software-based programming.

### Button-press programming at the main unit



- Easy, intuitive programming screen for initial programming and future adjustments
- Use the information screen on the GRAFIK Eye QS main unit to quickly and easily program load settings, scenes, timeclock events and more; adjust settings in the space without the need for other devices

### Software-based programming



- Create custom configurations with easily downloadable PC tool
- Utilize the tool to quickly copy and paste programming for multi-room applications
- Connects directly to USB port on front of GRAFIK Eye QS main unit



## Shades

Sivoia® QS wired and wireless shading systems offer convenient control of daylight at the touch of a button.

### Sivoia QS wired/wireless shades



POWERED BY
Battery
External transformer (12 or 24 VDC)

FREQUENCY
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Shades offer ultra-quiet precision control of daylight
- Styles include:
  - Roller shades
  - Tensioned shades
  - Roman shades with CERUS® safety technology
  - Drapery tracks
  - Kirbé® vertical drapery systems
  - Venetian blinds
  - Insulating honeycomb shades
- Includes a wide variety of fabric offerings to meet every need
- Wireless shades communicate directly with GRAFIK Eye via Lutron reliable Clear Connect® RF technology
- Wired shades communicate via the QS link

### Sivoia QS power supply (individual and smart panel)



- 12–24 V supply that provides power to shade and drapery drive units
- Various form factors available

POWERED BY
100V
120V
110–127V
127V NOM
220-240V
230V CE

This solution is a general-purpose switching and dimming system for large or multiple rooms in commercial applications.

### Feature highlights

- Daylight harvesting
- High-end trim to set maximum light levels
- Preset scene options
- Digitally addressable fluorescent dimming ballasts and LED drivers provide flexibility for zoning, daylighting, and reconfiguration
- Programming from hardware in field or via iPod touch®, iPad® or iPhone®.<sup>1</sup>

### Typical applications

- Frequently repurposed spaces
- Hallway/corridors
- Private offices
- Common areas
- Conference rooms
- Open office spaces

[Download the connection diagrams for Energi Savr Node](#)

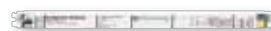
<sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.



**Energi Savr Node with EcoSystem®**  
(mounted in ceiling)



QS sensor  
module



**EcoSystem H-Series fluorescent  
dimming ballast (mounted in fixture)**



Pico® wireless light and shade controls



Radio Powr Savr™ wireless occupancy/vacancy sensor



Aliante® pendant by Ivalo®



Sivoia® QS wireless roller shade



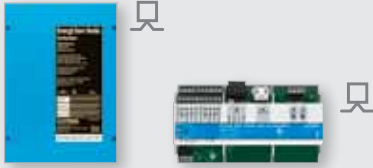
iPhone application



seeTouch® QS keypad

## Typical system components and communication

### Primary controls



Energi Savr Node with EcoSystem®

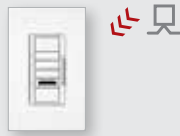


QS sensor module— required for Clear Connect® RF communication

### Sub-controls



Pico® wired and wireless controls



EcoSystem keypad



seeTouch® QS wallstation



QS timeclock

### Ballasts and drivers

(up to 128 digital ballasts or drivers communicate via EcoSystem digital link to Energi Savr Node with EcoSystem models)



EcoSystem ballast



Hi-lume® 3D ballast



Hi-lume A-Series LED driver



EcoSystem H-Series ballast

### Sensors



Radio Powr Savr™ wireless occupancy/vacancy sensors



Radio Powr Savr wireless daylight sensor



Wired occupancy sensor



Wired daylight sensor

## Control interfaces



QS RS232/  
Ethernet interface



QS contact  
closure interface



Emergency  
lighting interface

## Third-party devices



AV equipment  
(by others)



Security system  
(by others)



iPod touch®, iPad®  
or iPhone®<sup>1</sup>  
(WiFi router required)



IR remote control  
(by others)



Touch panel control  
(by others)



Louvres  
(by others)

## Shades



Sivoia® QS  
wired/wireless  
shade



QS smart panel  
power supply

## Additional primary controls



Energi Savr Node  
with Softswitch®



Energi Savr Node  
for 0-10V dimming



Energi Savr Node  
for DALI



Energi Savr Node  
Phase Adaptive

**For illustration purposes only. Consult specification submittals and/or installation instructions for wiring information.**

<sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

Wireless Radio Frequency (RF) communication

Infrared (IR) communication

Wired communication

## Understanding how to build an Energi Savr Node system

### 1. Energi Savr Node selection

Select primary control module based on load type and method of control required.

### 2. Ballast and driver selection

Determine number of fixtures, the type of fixtures, and how the fixtures are to be driven.

### 3. Sensor selection

Determine what sensors will be required and choose wired or wireless, or a combination of both technologies.

### 4. Sub-control selection

Determine the type of wall control required and/or if there are additional points of control or timeclock needed.

### 5. Control interface selection

Determine integration strategy.

### 6. Programming

Programming from hardware or via Apple® device (interface may be required).

Apple® is a trademark of Apple® Inc., registered in the U.S. and other countries.

## Primary controls

The main devices in this light control system distribute commands to sub-controls, sensors, shades, control interfaces, and lighting loads.

### Energi Savr Node with EcoSystem®



POWERED BY
Panel:
120V
110–127V
220–230V
277V
110–127V NOM
DIN-rail:
220–240V
230V (CE)

- Provides control of up to 64 or 128 EcoSystem compatible devices
- Wired communication with keypads/wallstations, sensors and control interfaces via a QS link
- Wireless communication with Pico wireless controls and Radio Powr Savr sensors via a QS sensor module
- Panel:
  - W: 9.25 in (235 mm)
  - H: 13.25 in (337 mm)
  - D: 3.16 in (80 mm)
- DIN-rail:
  - W: 6.36 in (162 mm)
  - H: 3.53 in (90 mm)
  - D: 2.39 in (61 mm)

### Energi Savr Node for DALI



POWERED BY
230V (CE)
220-240V

- Provides control of two loops of DALI compliant digital addressable loads; and up to 128 DALI compatible devices
- Each DALI loop can control a maximum of 16 zones
- Wired communication with keypads/wallstations, sensors and control interfaces via a QS link
- Wired communication with Pico wireless controls and Radio Powr Savr sensors via a QS sensor module
- W: 6.36 in (162 mm)  
H: 3.53 in (90 mm)  
D: 2.39 in (61 mm)

### Energi Savr Node with Softswitch®/ Energi Savr Node for Switching



POWERED BY
Panel:
120V
110-127V
110-127V NOM
220-240V
277V
DIN-rail:
220-240V
230V (CE)

- Controls up to 4 zones of lighting fixtures
- Provides easy integration of occupancy sensors, daylight sensors, and digital light controls for switching applications
- Wired communication with keypads/wallstations, sensors and control interfaces via a QS link
- Wireless communication with Pico wireless controls and Radio Powr Savr sensors via a QS sensor module
- Panel:  
W: 9.25 in (235 mm)  
H: 13.25 in (337 mm)  
D: 3.16 in (80 mm)
- DIN-rail:  
W: 6.36 in (162 mm)  
H: 3.53 in (90 mm)  
D: 2.39 in (61 mm)



## Primary controls (continued)

### Energi Savr Node for 0-10V



POWERED BY
Panel: 120V 110-127V 110-127V NOM
220-240V 277V
DIN-rail: 220-240V 230V (CE)

- Controls up to 4 zones of lighting fixtures
- Provides easy integration of occupancy sensors, daylight sensors, and digital light controls in 0-10V dimming applications
- Wired communication to keypads/wallstations, sensors and control interfaces via a QS link
- Wireless communication to Pico wireless controls and Radio Powr Savr sensors via a QS sensor module
- Panel:  
W: 9.25 in (235 mm)  
H: 13.25 in (337 mm)  
D: 3.16 in (80 mm)  
DIN-rail:  
W: 6.36 in (162 mm)  
H: 3.53 in (90 mm)  
D: 2.39 in (61 mm)

### Energi Savr Node Phase Adaptive



POWERED BY
220-240V 230V (CE)

- Provides control of dimmable CFL/LED loads in addition to incandescent/halogen, electronic low-voltage, magnetic low-voltage, and neon cold cathode light sources
- Has four multi-functional inputs that are compatible with occupancy/vacancy sensors, daylight sensors, IR receivers, or IEC PELV switches
- Wired communication with keypads/wallstations, sensors and control interfaces via a QS link
- Wireless communication with Pico wireless controls and Radio Powr Savr sensors via a QS sensor module
- W: 8.50 in (216 mm)  
H: 3.54 in (90 mm)  
D: 2.99 in (76 mm)















EXIT

**Energi Savr Node load summary**

- <sup>1</sup> To control 347V loads, use Energi Savr Node with EcoSystem fed from 120V
- <sup>2</sup> Does not provide interlock between outputs
- <sup>3</sup> Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for a complete list of LEDs compatible with this module

Energi Savr Node with EcoSystem®		Energi Savr Node with EcoSystem (DIN-rail)		Energi Savr Node for DALI (DIN-rail)	
<b>Load voltages</b>					
120V 277V 110–127V 127V (NOM) 220–240V	220– 240V	347V <sup>1</sup>	230V (CE) 220–240V	230V (CE) 220–240V	

**Dimmed loads**

 Incandescent/halogen	<b>BMJ + WBX</b>				
 Magnetic low-voltage	<b>BMJ + WBX</b>				
 Electronic low-voltage	<b>BMJ + WBX</b>				
 Fluorescent and LED (3-wire)	<b>BMF, BMJ</b>				
 Fluorescent and LED (0–10V)	<b>LMF</b>				
 Fluorescent and LED (PWM)					
 Tu-Wire® ballasts	<b>BMJ + WBX</b>				
 LED (2-wire forward phase)					
 CFL/LED (screw-base)	<b>BMJ + WBX</b>				
 Neon/cold cathode	<b>BMJ + WBX</b>				
 Fluorescent and LED (EcoSystem)	●	●	●	●	
 Fluorescent and LED (DALI)					●

**Switched loads**

Non-dim lighting	<b>XPJ</b>				
HID					
Motor loads	<b>XPJ</b>				
Fan loads	<b>XPJ</b>				

**Power interfaces**

- Compatible load control (no interfaces)
- BMJ:** EcoSystem dimming power module
- XPJ:** EcoSystem switching power module
- BMF:** EcoSystem fixture module
- WBX:** Phase-adaptive power module with 3-wire input
- LMF:** EcoSystem to 0–10V interface

- TVI:** 0–10V interface
- PWM:** Pulse width modulation interface
- FDBI-AU:** Fluorescent dimming ballast interface (AU)

- <sup>1</sup> To control 347V loads, use Energi Savr Node with EcoSystem fed from 120V
- <sup>2</sup> Does not provide interlock between outputs

<b>Energi Savr Node with Softswitch®</b>	<b>Energi Savr Node for 0-10V</b>	<b>Energi Savr Node for Switching (DIN-rail)</b>	<b>Energi Savr Node for 0-10V (DIN-rail)</b>	<b>Energi Savr Node for Phase Adaptive (DIN-rail)</b>	
120V 277V 110-127V 127V (NOM) 220-240V 347V	120V 277V 110-127V 127V (NOM) 220-240V 347V	230V (CE) 220-240V	230V (CE) 220-240V	230V (CE)	220-240V
				●	●
				●	●
				●	●
					<b>FDBI-AU</b>
	●		●	<b>TVI</b>	<b>TVI</b>
					<b>PWM</b>
				● <sup>3</sup>	● <sup>3</sup>
				●	●
●	●	●	●	<b>TVI</b>	<b>TVI, PWM</b>
●	●	●	●	<b>TVI</b>	<b>TVI, PWM</b>
● <sup>2</sup>	● <sup>2</sup>			<b>TVI</b>	<b>TVI, PWM</b>
●	●			<b>TVI</b>	<b>TVI, PWM</b>

## Sub-controls

Sub-controls are accessory components that provide additional control locations for increased convenience.

### seeTouch® QS keypad



<b>POWERED BY</b>
QS link 1 PDU
<b>BACKBOX</b>
U.S. style

- Models available with 1-7 programmable buttons
- Select models available with all off and/or raise/lower and infrared (IR) receiver
- Buttons can be used for scene recall, zone toggle, zone lockout, fine tuning, panic, sequencing, and partitioning
- Available in 41 finishes
- W: 2.75 in (70 mm)  
H: 4.56 in (116 mm)  
D: 1.06 in (27 mm)  
Profile: 0.31 in (8mm)

### EcoSystem® wallstation



<b>POWERED BY</b>
20V DC low-voltage from ESN or power pack or ballast/module with IR input or QS link 1 PDU (with QSM)
<b>BACKBOX</b>
U.S. style

- 4-button model with scene and zone toggle functionality
- IR receiver allowing convenient control of lights via IR remote control
- Available in 4 finishes
- Mounts in a standard 1-gang U.S. backbox
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.56 in (40 mm)  
Profile: 0.31 in (8mm)

### International seeTouch QS wallstation



<b>POWERED BY</b>
QS link 1 PDU
<b>BACKBOX</b>
Round or square

- Models available with 2-10 programmable buttons
- Buttons can be used for scene recall, zone toggle, zone lockout, fine tuning, panic, sequencing, and partitioning
- Select models available with all off and/or raise/lower and infrared (IR) receiver
- Available in 12 finishes
- W: 3.38 in (86 mm)  
H: 3.38 in (86 mm)  
D: 1.06 in (27 mm)  
Profile: 0.31 in (8mm)

### Pico® wired control



<b>POWERED BY</b>
20V DC low-voltage from ESN or ballast/module with IR input or QS link 1/2 PDU (with QSM)
<b>BACKBOX</b>
U.S. style

- Controls scenes and zones of light
- Four button configurations available with options for preset and raise/lower
- Available in 5 finishes
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.98 in (40 mm)  
Profile: 0.31 in (8mm)

### QS keyswitch



POWERED BY
QS link 1 PDU

BACKBOX
U.S. Style

- Provides key-only access to lighting controls; ideal for public spaces
- Can recall preset light levels, fine tune, enable/disable, open/close, and start/stop
- Available in 8 finishes
- W: 2.72 in (69mm)  
H: 4.57 in (116mm)  
D: 1.77 in (45mm)  
Profile: 0.28 in (7mm)

### QS IR eye



POWERED BY
QS link 1/2 PDU

- Provides infrared (IR) control via Lutron IR remote controls and IR integration
- Allows control via 3rd party IR remotes
- Integrates shade and lighting devices via a single IR eye
- Available in White
- Diameter: 1.19 in (30mm)  
Depth: 0.75 in (19mm)  
Cord length: 7.25 in (184mm)

### Pico® wireless control



POWERED BY
Battery

FREQUENCY
434 MHz 434 MHz Limited channel
865 MHz
868 MHz
868 MHz Limited channel

- Controls single light or zone of lights
- Four button configurations available with options for preset and raise/lower
- Available in 5 finishes
- Can be a wall-mount, tabletop, car visor or hand-held control
- Battery included
- W: 1.30 in (33mm)  
H: 2.60 in (66mm)  
D: 0.31 in (8mm)

### IR remote control



POWERED BY
Battery

- Models available with 4 or 8 scene control
- Offers master raise/lower and all off buttons
- Available in White and Black
- W: 1.50 in (38mm)  
H: 5.69 in (145mm)  
D: 0.88 in (22mm)

## Sub-controls (continued)

Sub-controls are accessory components that provide additional control locations for increased convenience.

### EcoSystem® IR remote control and IR receiver



**POWERED BY**  
Battery

- Allows user to adjust the lights from a minimum to maximum and set and recall a favorite scene
- Communicates via Infrared (IR) signal to IR receiver
- Available in White
- IR remote control:  
W: 1.51 in (38 mm)  
H: 4.61 in (117 mm)  
D: 0.55 in (14 mm)
- IR receiver:  
Diameter: 1.18 in (30 mm)  
Depth: 1.25 in (32 mm)  
Profile: 0.69 in (17 mm)

### QS timeclock



**POWERED BY**  
QS link 3 PDUs

- Astronomic times are programmable by integral city database or by latitude and longitude
- Seven daily schedules available
- After-hours feature allows occupants to temporarily override timeclock events
- Available in White
- W: 9.38 in (239 mm)  
H: 4.69 in (119 mm)  
D: 2.00 in (51 mm)  
Profile: 0.38 in (10 mm)



## Ballasts and drivers

Ballasts and drivers are required to control fluorescent and/or LED lighting. The EcoSystem digital link allows for rezoning without rewiring.

### EcoSystem ballast



POWERED BY
120V
110-127V
110-127V NOM
220-240V
277V

- Continuous, flicker-free dimming from 100% to 10%
- Models available for T8, T8 reduced wattage, T5, T5 reduced wattage and T5HO lamps
- Wired sensors can connect directly to the ballast
- Available with EcoSystem digital link or 3-wire control

### EcoSystem ballasts for compact fluorescent lamps (CFL)



POWERED BY
120V
110-127V
110-127V NOM
220-240V
277V

- Continuous, flicker-free dimming from 100% to 5% for T4 CFLs
- Available with EcoSystem digital link or 3-wire control

### Hi-lume 3D ballast



POWERED BY
120V
240V
277V

- Continuous, flicker-free dimming from 100% to 0.3% for T8 lamps, T5 and T5HO lamps, and 5% for T5 twin-tube and T5HO 80W models
- Available with EcoSystem digital link or 3-wire control

### Hi-lume® A-Series LED driver



POWERED BY
120V
240V
277V

- Continuous, flicker-free dimming from 100% to 1%
- Efficiency greater than 80% at 40W
- Available with EcoSystem digital link, 3-wire or forward phase control

### EcoSystem H-Series ballast



POWERED BY
120V
110-127V
110-127 V NOM
220-240V
230V (CE)
277V
347V

- Continuous, flicker-free dimming from 100% to 1%
- Models available for T8, T5, and T5HO lamps
- Available with EcoSystem digital link only

### Hi-Lume ballast



POWERED BY
120V
277V

- Continuous, flicker-free dimming from 100% to 1%
- Models available for T5HO lamps and T4 CFLs
- Available with 3-wire control

### EcoSystem LED driver



POWERED BY
220V
240V

- Continuous, flicker-free dimming from 100% to 1%
- Efficiency greater than 80% at 25W
- Available with EcoSystem digital link only
- CE rated

## Sensors

Wired and wireless sensors add convenience by detecting occupancy/vacancy, daylight, and partitioning and adjust the lights accordingly.

### Wireless

#### Radio Powr Savr™ wireless occupancy/vacancy sensor



POWERED BY
Battery

FREQUENCY
315MHz (ceiling-mount only)
434MHz
434 limited channel MHz
865MHz (ceiling-mount only)
868MHz (ceiling-mount only)
868 limited channel MHz (ceiling-mount only)

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Models available as occupancy/vacancy or vacancy only
- Passive infrared (PIR) with Lutron exclusive XCT™ technology
- 10-year battery life
- Available in White
- Ceiling-mount:  
Diameter: 3.57 in (91 mm)  
Depth: 1.13 in (29 mm)
- Wall-mount:  
W: 1.80 in (46 mm)  
H: 4.35 in (110 mm)  
D: 1.35 in (34 mm)

### Wired

#### Wired LOS-C and LOS-W occupancy sensor



POWERED BY
20–24V DC from power pack or ESN or QS link 2 PDUs (with QSM) or ballast/module with sensor connection

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Sensor technology options include PIR, ultrasonic and dual technology
- Wall-mount and ceiling-mount models available
- Available in White
- Ceiling-mount:  
Diameter: 4.50 in (114 mm)  
Depth: 1.40 in (38 mm)
- Wall-mount:  
W: 2.70 in (69 mm)  
H: 5.25 in (133 mm)  
D: 3.90 in (99 mm)

#### Radio Powr Savr wireless daylight sensor



POWERED BY
Battery

FREQUENCY
315MHz
434MHz
434 limited channel MHz
865MHz
868MHz
868 limited channel MHz

- Automatically adjusts lighting zones based on amount of daylight entering a space
- Ability to disable on a scene-by-scene basis
- Ceiling-mounted
- 10-year battery life
- Available in white
- Diameter: 1.60 in (41 mm)  
Depth: 0.70 in (17 mm)

#### Wired daylight sensor



POWERED BY
20–24VDC from ESN or 1/2 PDU (with QSM) or ballast/module with sensor connection

- Automatically adjusts lighting zones based on amount of daylight entering a space
- Ability to disable on a scene-by-scene basis
- Includes integral IR receiver
- Ceiling-mounted
- Available in white
- Diameter: 1.18 in (30 mm)  
Depth: 1.25 in (32 mm)  
Profile: 0.69 in (17 mm)

All ballasts communicate with wireless sensors and controls via QS sensor module.

### Wired high-bay occupancy sensors



**POWERED BY**  
 20–24 V DC power pack  
 or  
 ESN  
 or  
 QS link, 2 PDUs (with QSM)  
 or  
 ballast with sensor connection

- Automatically turns lighting scense/zones on and/or off based on space occupancy
- Passive infrared sensor designed for use in high-bay applications
- Maximum mounting height 45 ft (14 m)
- Surface-mount and end-mount models available
- Available in white
- 180° and 360° surface-mount:  
 Diameter: 4.00 in (102 mm)  
 Depth: 1.50 in (38 mm)  
 180° end mount:  
 W: 4.00 in (102 mm)  
 H: 4.50 in (114 mm)  
 D: 1.50 in (38 mm)  
 360° end-mount:  
 W: 3.60 in (91 mm)  
 H: 4.40 in (112 mm)  
 D: 2.00 in (51 mm)

### IR Partition Sensor



**POWERED BY**  
 External transformer  
 12–24 V DC

- IR transmitter/receiver pair detects open/closed status of partition and coordinates lighting preset functions
- Sensors must be mounted in a position where the partition separates the transmitter and receiver when the partition is closed
- Requires QS contact closure interface for operation
- Surface-mounted
- Available in White
- W: 4.56 in (115 mm)  
 H: 2.69 in (68 mm)  
 D: 1.50 in (38 mm)

## Control interface modules

Use control interface modules to combine Lutron® light controls with other 3rd party devices and systems for advanced integration. Interfaces may also provide connection points for other Lutron devices.

### QS RS232/Ethernet interface



POWERED BY
QS link 2 PDUs or external transformer (12–24V DC)

- Allows integration with a touch screen, PC, A/V system, or other digital equipment that supports RS232 communication, or TCP/IP communication over Ethernet
- Monitor lighting scenes and levels
- Features include raise and lower of zones and scene activation
- W: 4.26 in (108 mm)  
H: 5.26 in (134 mm)  
D: 1.06 in (27 mm)

### QS sensor module



POWERED BY
QS link 3 PDUs

FREQUENCY
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Integrates additional Lutron wireless and wired sensors and controls through the QS link
- Connects up to four Lutron wired sensors and ten each of the wireless devices – occupancy/vacancy sensors, daylight sensors and Pico wireless controls
- Junction box or ceiling-mount options available
- Diameter: 4.04 in (103 mm)  
Depth: 0.74 in (19 mm)  
Profile: 0.43 in (11 mm)

### QS contact closure interface



POWERED BY
QS link 3 PDUs or external transformer (12–24V DC)

- Provides five contact closure inputs and five contact closure outputs
- Allows integration with third-party equipment such as motion/occupancy sensors, timeclocks and moveable walls
- Features include scene selection, partitioning, occupancy sensing, zone toggle, panic, control lockout, and after-hours start/stop
- W: 4.26 in (108 mm)  
H: 5.26 in (134 mm)  
D: 1.06 in (27 mm)

### Emergency lighting interface



**POWERED BY**  
24V from power pack

- Turns all or designated lighting loads to “full on” output or other programmed emergency light level
- Senses normal line-voltage on all three phases of power
- Provides inputs for a fire alarm control panel
- UL 924 listed as “Emergency Lighting and Power Equipment”
- W: 5.00in (127 mm)  
H: 7.75in (197 mm)  
D: 2.50in (64 mm)

### QS motor group controller (DIN-rail)



**POWERED BY**  
120–240V  
120–240V (CE)

- Allows seamless integration with AC blinds, shades, louvers, projection screens, or any compatible AC motor
- Provides four independently controllable AC raise/lower outputs from one common AC input feed
- W: 6.40in (162 mm)  
H: 3.50in (90 mm)  
D: 2.40in (61 mm)

## Shade systems

Sivoia® QS wired and wireless shading systems offer convenient control of daylight at the touch of a button.

### Sivoia QS wired/wireless shades



POWERED BY
Battery or external transformer (12 or 24 V DC)

FREQUENCY
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Shades offer ultra-quiet precision control of daylight
- Shades keypad required for operation
- Styles include:
  - Roller shades
  - Tensioned shades
  - Roman shades with CERUS® safety technology
  - Drapery tracks
  - Kirbé® vertical drapery systems
  - Venetian blinds
  - Insulating honeycomb shades
- Includes a wide variety of fabric offerings to meet every need
- Wireless shades communicate via Lutron reliable clear Connect RF technology
- Wired shades communicate via the QS link

### Sivoia QS power supplies



- 12 or 24 V supply that provides power to shade and drapery drive units
- Various form factors available

POWERED BY
100V
120V
110-127V
127V (NOM)
220-240V
230V (CE)

## Software and programming

This system can be programmed at the module via button-press programming or through software applications designed for the iPod touch®, iPad®, and iPhone®.<sup>1</sup>

### Button-press programming at the unit



- Programming performed directly from the Energi Savr Node
- Manual programming offers an easy way to set up an Energi Savr Node to be controlled by wireless or wired sensors and controls
- Recommended for single unit Energi Savr Node installations

### Software programming features



- Provides easy set up and seamless maintenance
- Recommended for multiple Energi Savr Node installations
- Requires iPod touch, iPad, or iPhone mobile digital device<sup>1</sup>
- Required when programming Energi Savr Node with EcoSystem® and Energi Savr Node for DALI
- WiFi connection to Energi Savr Node required via wireless router to unit or programming interface

### Energi Savr Node programming interface



- Program all Energi Savr Node modules connected to the same QS link via the Energi Savr Node app for Apple® mobile digital devices



- Requires wireless router
- W: 2.10 in (53 mm)
- H: 3.50 in (88 mm)
- D: 2.40 in (60 mm)

<sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.



RadioRA 2 is a master control system for residential applications. It's ideal for a single room, multiple rooms, or an entire house.

### Feature highlights

- Preset multi-room scenes and manual dimming
- Smart device control
- PC-based programming to set scenes at occupancy/vacancy settings
- Astronomical timeclock-based automatic control
- Demand response capable
- Temperature control

### Typical applications

- Multiple rooms in a house
- Whole home



Wall-mount designer keypad



Aliante® pendant by Ivalo®



Pico® wireless lighting and shade control

Download the connection diagrams for RadioRA 2



Radio Powr Savr™ wireless occupancy/vacancy sensor



Sivoia® QS wireless drapery and roller shade



Designer dimmers in a 2-gang wallplate



Wireless tabletop keypad



Main repeater (hidden in cabinet)

## Typical system components and communication

### Primary controls



Wireless dimmers and switches



Hybrid wireless keypad (dimmer and preset control)



GRAFIK Eye® QS wireless main unit



Plug-in wireless tabletop lamp dimmer



Plug-in wireless dimming switching or appliance (switching) module

### Sub-controls



Wall-mount wireless keypad



Tabletop wireless keypad



Pico® wireless controls



seeTemp® wall control



Car visor control transmitter



TouchPRO Wireless® thermostat

### Sensors



Radio Powr Savr™ wireless ceiling-mount occupancy/vacancy sensor



Radio Powr Savr wireless corner-, hallway- and wall-mount occupancy/vacancy sensor



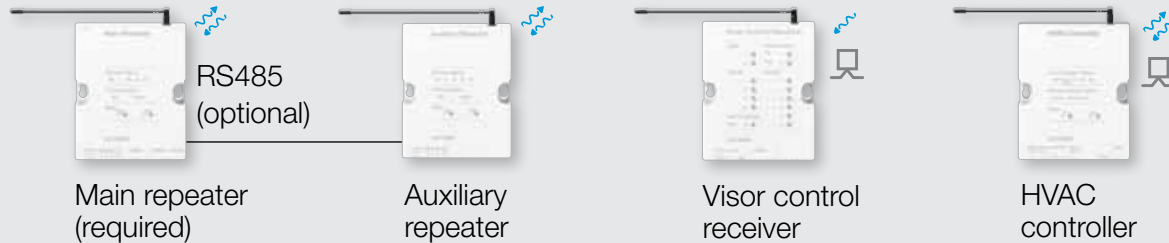
Wireless wall-mount temperature sensor

Wireless Radio Frequency (RF) communication

Infrared (IR) communication

Wired communication

### Control interfaces



### Shades



Sivoia® QS wireless shades



Sivoia QS wireless insulating honeycomb shades

### Third-party devices



A/V equipment (by others)



Security system (by others)



HVAC equipment (by others)



IR remote control (by others)



Garage door opener (by others)



Touch panel control (by others)

**For illustration purposes only. Consult specification submittals and/or installation instructions for specific project wiring information.**

RadioRA 2 systems can have up to 100 devices per main repeater, and up to 2 main repeaters (for up to 200 devices) per system (requires qualification of installer). The RF range between repeaters is 60 ft (18m) and 30 ft (9m) to other devices, with a total possible coverage area of approximately 2,500 ft<sup>2</sup> (762 m<sup>2</sup>) per repeater.

## How to build a RadioRA 2 system

### 1. Selecting primary controls by lighting load type and wattage

Review the load summary table for compatible lighting loads (on pg. 72).

### 2. Aesthetic choices

Main units, keypads, dimmers/switches, wireless controls, and sensors are visible in the space. Review for color, capacity, and model information.

### 3. Integration/connecting to third-party devices

To connect with home automation or other integration devices, use the main repeater.

### 4. Shades

Wireless shading systems are available that offer convenient control of daylight at the touch of a button.

### 5. Programming and software

RadioRA 2 can be programmed through PC-based or button-press programming.

## Primary controls

The main devices in this light control system that handle the power for lighting loads and distribute commands to sub-controls, sensors, shades, control interfaces and lighting loads.

### Designer dimmer



POWERED BY
120V
277V
110-127V
127V NOM

FREQUENCY
434MHz

BACKBOX
U.S. style

- Dimmers incorporate advanced features such as fade on/fade off, long fade off, and rapid full on
- Available as a remote dimmer
- Available in gloss and satin finishes (not available in Sea Glass)
- Mounts in a standard 1-gang U.S. backbox
- Can be mounted with other devices in a multi-gang wallplate
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.13 in (30 mm)  
Profile: 0.31 in (8 mm)

### Designer switch



POWERED BY
120V
277V
110-127V
127V NOM

FREQUENCY
434MHz

BACKBOX
U.S. style

- Available as a remote switch
- Available in gloss and satin finishes (not available in Sea Glass)
- Mounts in a standard 1-gang U.S. backbox
- Can be mounted with other devices in a multi-gang wallplate
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.13 in (30 mm)  
Profile: 0.31 in (8 mm)

**GRAFIK® Eye QS wireless main unit**



POWERED BY
120V
110-127V
127V NOM
220-240V
240V CE
FREQUENCY
434MHz
BACKBOX
U.S. style

- Preset control of 3, 4, or 6 lighting zones and 0, 1, 2, or 3 shade groups
- Compatible with wireless components such as Sivoia® QS wireless shades, RadioRA 2 keypads, RadioRA 2 dimmers, and sensors
- Program main unit shade button groups similar to a RadioRA 2 keypad and program the lighting zones similar to the RadioRA 2 dimmers
- Available in architectural matte and metal, and satin finishes
- Mounts in a 4-gang U.S. backbox
- W: 9.38 in (239 mm)
- H: 4.69 in (119 mm)
- D: 2.00 in (51 mm)
- Profile: 0.38 in (10 mm)

**Hybrid keypad**



POWERED BY
120V
110-127V
127V NOM
FREQUENCY
434MHz
BACKBOX
U.S. style

- Hybrid keypads function as a dimmer and keypad combined into a single device, incorporating advanced features such as fade on/fade off
- Fine tune scenes by pressing and holding the raise/lower buttons
- Available in gloss and satin finishes (not available in Sea Glass)
- Mounts in a standard 1-gang U.S. backbox
- W: 2.94 in (75 mm)
- H: 4.69 in (119 mm)
- D: 1.25 in (32 mm)
- Profile: 0.31 in (8 mm)

**Tabletop lamp dimmer**



POWERED BY
120V
110-127V
127V NOM
FREQUENCY
434MHz

- Lamp dimmers include advanced features such as fade on/fade off, delayed long fade off, and rapid full on
- Available in Snow and Midnight
- Easy to install, no mounting required
- W: 2.44 in (62 mm)
- H: 3.25 in (83 mm)
- Top D: 0.94 in (24 mm)
- Bottom D: 0.69 in (18 mm)

**Plug-in dimming or appliance module**

















POWERED BY
120V
110-127V
127V NOM
FREQUENCY
434MHz

- Use the plug-in module to eliminate energy use by products/appliances in the off position
- Available in Snow and Midnight
- Modules can be hidden discretely behind furniture
- W: 2.25 in (58 mm)
- H: 3.25 in (84 mm)
- D: 1.13 in (30 mm)

**RadioRA 2 dimming and switching load summary**

\* Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for a complete list of LEDs compatible with the adaptive and neutral wire (1000W) dimmers

		 <b>RadioRA 2 dimmer</b>		 <b>RadioRA 2 switch</b>	
		<b>Load voltages</b>			
		120V 110–127V 127V NOM	277V	120V 110–127V 127V NOM	277V
<b>Dimmed loads</b>					
	Incandescent/halogen	●	<b>WBX</b>		
	Magnetic low-voltage	●	<b>WBX</b>		
	Electronic low-voltage	●	<b>WBX</b>		
	Fluorescent and LED (3-wire)	●	●		
	Fluorescent and LED (0–10V)	<b>TVI</b>	<b>TVI</b>		
	Fluorescent and LED (PWM)	<b>PWM</b>	<b>PWM</b>		
	Tu-Wire® fluorescent	●			
	LED (2-wire forward phase)	●			
	CFL/LED (screw-base)	●*	<b>WBX</b>		
	Neon/cold cathode	●			
	Fluorescent and LED (EcoSystem®)				
	Fluorescent and LED (DALI)				
<b>Switched loads</b>					
Non-dim lighting (loads above)				●	●
HID				●	●
Motor loads				●	●
Fan loads				●	●

**Power interfaces**

● Compatible load control (no interfaces)


**WBX:** Phase-adaptive power module with 3-wire input













**TVI:** 0–10V interface

**PWM:** Pulse width modulation interface




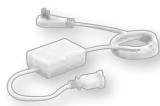














**RadioRA 2 dimming and switching load summary**

 <b>Hybrid keypad</b>	 <b>Tabletop lamp dimmer</b>
<b>Load voltages</b>	
120V 110–127V 127V NOM	120V 110–127V 127V NOM

<b>Dimmed loads</b>		
 Incandescent/halogen	●	●
 Magnetic low-voltage	●	●
 Electronic low-voltage	<b>PA</b>	
 Fluorescent and LED (3-wire)	<b>3F</b>	
 Fluorescent and LED (0–10V)	<b>TVI</b>	
 Fluorescent and LED (PWM)	<b>PWM</b>	
 Tu-Wire® fluorescent	●	
 LED (2-wire forward phase)		
 CFL/LED (screw-base)	<b>PA</b>	
 Neon/cold cathode	<b>PA</b>	
 Fluorescent and LED (EcoSystem®)		
 Fluorescent and LED (DALI)		
<b>Switched loads</b>		
Non-dim lighting (loads above)	<b>SW, TVI, PWM</b>	●
HID	<b>SW, TVI, PWM</b>	
Motor loads	<b>SW, TVI, PWM</b>	
Fan loads	<b>SW, TVI, PWM</b>	

<b>Power interfaces</b>	
● Compatible load control (no interfaces)	<b>TVI:</b> 0–10V interface
<b>PA:</b> Phase-adaptive power module	<b>PWM:</b> Pulse width modulation interface
<b>3F:</b> Fluorescent power module	<b>SW:</b> Switching power module

**RadioRA 2 dimming and switching load summary**

	 <b>GRAFIK Eye® QS wireless main unit</b>	 <b>Plug-in dimming module</b>	 <b>Plug-in appliance module</b>
<b>Load voltages</b>			
	120V 110–127V 127V NOM	277V <sup>2</sup>	120V 110–127V 127V NOM
			120V 110–127V 127V NOM
<b>Dimmed loads</b>			
 Incandescent/halogen	●	<b>PA</b>	●
 Magnetic low-voltage	●	<b>PA</b>	●
 Electronic low-voltage	<b>PA</b>	<b>PA</b>	
 Fluorescent and LED (3-wire)	<b>3F</b>	<b>3F</b>	
 Fluorescent and LED (0–10V)	<b>TVI</b>	<b>TVI</b>	
 Fluorescent and LED (PWM)	<b>PWM</b>	<b>PWM</b>	
 Tu-Wire® fluorescent	●		
 LED (2-wire forward phase)	●		
 CFL/LED (screw-base) <sup>1</sup>	<b>PA</b>	<b>PA</b>	
 Neon/cold cathode	●		
 Fluorescent and LED (EcoSystem®)			
 Fluorescent and LED (DALI)			
 Cree LR4/LR6 LED	●		
<b>Switched loads</b>			
Non-dim lighting (loads above)	●	<b>SW, TVI, PWM</b>	●
HID	<b>SW, TVI</b>	<b>SW, TVI</b>	●
Motor loads	<b>SW, TVI, PWM</b>	<b>SW, TVI, PWM</b>	●
Fan loads	<b>SW, TVI, PWM</b>	<b>SW, TVI, PWM</b>	●
Appliance loads			●

<sup>1</sup> For approved lamps visit [www.lutron.com/LED](http://www.lutron.com/LED)

<sup>2</sup> Require 120V control input, regardless of load voltage

<b>Power interfaces</b>	
● Compatible load control (no interfaces)	<b>SW:</b> Switching power module
<b>PA:</b> Phase-adaptive power module	<b>TVI:</b> 0–10V interface
<b>3F:</b> Fluorescent power module	<b>PWM:</b> Pulse width modulation interface

## Sub-controls

Sub-controls are accessory components that provide additional control locations for increased convenience.

### Wall-mount designer wireless keypad



POWERED BY
120V
FREQUENCY
434MHz
BACKBOX
U.S. style

- Scene buttons fade on/off to preselected light and shade levels; scenes can be fine-tuned by pressing and holding the raise/lower buttons
- Operates lights, shades, motorized screens, thermostats, and many other devices
- Available in gloss and satin finishes (not available in Sea Glass)
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.06 in (27 mm)  
Profile: 0.31 in (8 mm)

### Pico® wireless control



POWERED BY
Battery
FREQUENCY
315 MHz
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Controls a single light or shade, or zone of lights or group of shades
- Available in 4 models with multiple engraving options and 5 color choices (gloss finishes)
- Can be a wall-mount, tabletop, car visor or hand-held control
- Battery included
- W: 1.30 in (33 mm)  
H: 2.60 in (66 mm)  
D: 0.31 in (8 mm)

### Tabletop wireless keypad



POWERED BY
Battery or external transformer (9V DC)
FREQUENCY
434MHz
868MHz

- Scene buttons fade on/off to pre-selected light and shade levels; scenes can be fine-tuned by pressing and holding the raise/lower buttons
- Operates lights, shades, motorized screens, thermostats, and many other devices
- Available in Snow and Midnight
- W: 3.56 in (91 mm)  
H: 3.25 in (82 mm)  
Top D: 1.00 in (25 mm)  
Bottom D: 0.75 in (18 mm)

### Visor control transmitter



POWERED BY
Battery
FREQUENCY
390MHz

- Controls lights, shades, and other equipment from the car at the touch of a button
- Clip transmitter to a vehicle's visor
- Homelink compatible
- W: 3.25 in (81 mm)  
H: 1.50 in (38 mm)  
D: 0.75 in (19 mm)

## Sub-controls (continued)

Sub-controls are accessory components that provide additional control locations for increased convenience.

### seeTemp® wall control



POWERED BY
Low-voltage 24 V AC or 120 V 110-127 V 127V NOM

FREQUENCY
434 MHz

BACKBOX
U.S. style

- seeTemp wall control can be placed at a preferred control location, without regard for the local temperature, while the wireless temperature sensor is placed where readings will be most accurate
- Available in Gloss and Satin finishes (not available in Sea Glass)
- W: 2.94 in (75 mm)  
H: 4.69 in (119 mm)  
D: 1.25 in (31 mm)  
Profile: 0.31 in (8 mm)

## Sensors

Wireless sensors automatically control lights and/or shades based on the occupancy/vacancy of the space. Wireless temperature sensors measure and transmit current temperature.

### Radio Powr Savr™ wireless occupancy/vacancy sensor



POWERED BY
Battery

FREQUENCY
315 MHz
434 MHz
434 limited channel MHz
865 MHz
868 MHz
868 limited channel MHz

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Models available as occupancy/vacancy or vacancy only (vacancy-only model available to meet California Title 24 requirements)
- 10-year battery life
- Available in White
- Ceiling-mount  
Diameter: 3.57 in (91 mm)  
Depth: 1.13 in (29 mm)
- Wall-mount  
W: 1.80 in (46 mm)  
H: 4.35 in (110 mm)  
D: 1.35 in (34 mm)

### Wireless wall-mount temperature sensor



POWERED BY
Battery

FREQUENCY
434 MHz

- Detects temperature and transmits information to HVAC controller
- Use up to four units to average temperature readings
- Use up to five wireless temperature sensors per main repeater
- 5-year battery life
- Available in Snow and Midnight
- Diameter: 1.63 in (41 mm)  
Depth: 0.75 in (17 mm)

## Control interface modules

Use control interface modules to combine Lutron light controls with other room and building systems for advanced integration. These modules may also provide connection points for other Lutron devices.

### Main repeater (required)



<b>POWERED BY</b>
120V plug-in or external transformer (9V DC)
<b>FREQUENCY</b>
434 MHz 868 MHz

- RF range between repeaters is 60 ft (18 m) and 30 ft (9 m) to other devices
- One main repeater is required in the system (for up to 100 devices). Up to four auxiliary repeaters can be added to each main repeater.
- Astronomic timeclock included in main repeater
- Main repeater features integration to: RS232/Ethernet
- W: 4.25 in (108 mm)  
H: 5.25 in (133 mm)  
D: 1.06 in (27 mm)

### HVAC controller



<b>POWERED BY</b>
24 V AC
<b>FREQUENCY</b>
434 MHz to HVAC equipment

- Connects to mechanical HVAC equipment using standard HVAC terminal strip (24 V AC)
- W: 4.25 in (108 mm)  
H: 5.25 in (133 mm)  
D: 1.06 in (27 mm)

### Auxiliary repeater



<b>POWERED BY</b>
120V plug-in or external transformer (9V DC)
<b>FREQUENCY</b>
434 MHz

- RF range between repeaters is 60 ft (18 m) and 30 ft (9 m) to other devices
- Auxiliary repeaters (up to four) extend the range of RF signals sent between devices
- W: 4.25 in (108 mm)  
H: 5.25 in (133 mm)  
D: 1.06 in (27 mm)

### Visor control receiver



<b>POWERED BY</b>
120V plug-in or external transformer (9V DC)
<b>FREQUENCY</b>
390 MHz 434 MHz

- Control lights, shades, and other equipment from the car at the touch of a button
- HomeLink® compatible
- Provides contact closure inputs
- W: 4.25 in (108 mm)  
H: 5.25 in (133 mm)  
D: 1.06 in (27 mm)

## Shade systems

Sivoia® QS wireless shading systems offers convenient control of daylight at the touch of a button.

### Sivoia QS wireless shades



POWERED BY
Batteries or 12–24 V DC

FREQUENCY
434 MHz

- Shades offer ultra-quiet precision control of daylight
- Styles include:
  - Roller shades
  - Tensioned shades
  - Roman shades with CERUS® safety technology
  - Drapery tracks
  - Kirbé® vertical drapery systems
  - Venetian blinds
  - Insulating honeycomb shades
- Includes a wide variety of fabric offerings to meet every need
- Communicates via Lutron reliable Clear Connect® RF technology

### Sivoia QS power supply (individual and smart panel)



POWERED BY
100V
120V
110–127V
127V NOM
220–240V
230V CE

- 24 V supply that provides power to shade and drapery drive units
- Simple wiring scheme uses 2-conductor low-voltage link to provide power to QS Wireless electronic drive units, and 4-conductor low-voltage link to provide power and communication to Sivoia QS wired electronic drive units
- The 2-conductor panel is available in a 120V model, while the 4-conductor panel is available in 120V and 230V models
- QS link power supply available in 100–240VAC models

### Insulating honeycomb shade power panel power supply



- Universal input voltage 120–240V~ 50/60 Hz
- Electronic over-current and over-temperature protection
- Class 2 12V supply that can power up to 10 insulating honeycomb shades
- Simple wiring scheme uses 2-conductor low voltage link to provide power
- Energy efficient—International Efficiency Level V, Energy Star 2.0 & CeC compliant

## Software and programming options

RadioRA 2 can be programmed through PC-based or button-press programming.

### Software application



- PC programming is available to qualified dealers and offers access to advanced features like an astronomic timeclock and integration with other systems.

### Button-press programming



- Button-press programming offers an easy way to program system keypads to control lights and shades throughout the home. A computer or other external equipment isn't required.

Feature	Button-press programming	PC programming
Scene control	•	•
Room monitoring	•	•
Individual device control	•	•
0–100 devices	•	•
101–200 devices		•*
Astronomic timeclock		•
Away mode		•
Security mode		•
Integration		•
Mobile devices		•
“Green” button		•
Thermostat		•
Occupancy sensors		•
Homeowner adjustments		•

\* Requires L2 dealer qualification



# Primary controls

Primary controls are the main devices for line-voltage dimming and switching. These devices include dimmers and switches, as well as control processors that coordinate wired and wireless communication between other system devices.

The primary controls addressed in this guide are specific to each country's voltage and frequency requirements. Please confirm that the products you have selected match the required voltages by country.

## Primary control options include:

- Dimmers and switches
- PowPak® modules
- Plug-in modules
- Stairwell fixtures
- Hybrid keypads
- GRAFIK Eye® QS main units
- Energi Savr Node™ units



### **Maestro Wireless® dimmers and switches**

pg. 94



### **Rania® Wireless RF switches**

pg. 100



### **Maestro Wireless tabletop lamp dimmers**

pg. 104



### **PowPak modules**

Dimming module with EcoSystem® pg. 107

Relay module pg. 109



### **PowPak plug-in dimming and appliance modules**

pg. 111



**PowPak® stairwell fixtures**  
pg. 114



**RadioRA 2  
hybrid keypads**  
pg. 128



**Energi Savr Node  
with EcoSystem  
(DIN-rail)**  
pg. 150



**RadioRA® 2 designer  
dimmers and switches**  
pg. 117



**GRAFIK Eye® QS  
main units**  
pg. 132



**Energi Savr Node  
for DALI (DIN-rail)**  
pg. 153



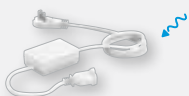
**RadioRA 2 tabletop  
lamp dimmers**  
pg. 122



**Energi Savr Node™  
with EcoSystem®**  
pg. 144



**Energi Savr Node for  
0-10V/Energi Savr Node  
for Switching (DIN-rail)**  
pg. 156



**RadioRA 2  
RF plug-in modules**  
pg. 125



**Energi Savr Node for  
0-10V/ Energi Savr  
Node with Softswitch®**  
pg. 147



**Energi Savr Node  
Phase Adaptive  
(DIN-rail)**  
pg. 159



Wireless Radio Frequency (RF)  
communication














Shown actual size: Maestro Wireless dimmer in White (MRF2-600M-WH) with 1-gang Claro wallplate in White (CW-1-WH)

## Features and capacities

- Uses Lutron reliable Clear Connect® Radio Frequency (RF) technology which provides RF communication with Radio Powr Savr™ sensors (see pgs. 228, 232, 239) and Pico® wireless controls (see pg. 164)
- True multi-location dimming from every location; add up to 9 companion controls
- Delayed off provides light as you exit the room
- Combine devices to create a system of up to 10 wireless devices, dimmers, switches, sensors, and/or wireless controls
- Line frequency compensation maintains stable light levels despite power line frequency and voltage variations
- Power failure memory: should power be interrupted, the control will return to its previous state
- Mechanical air-gap for positive load power disconnect
- Coordinating Claro®, Satin Colors®, and Stainless Steel wallplates only available separately, see pg. 408
- Custom engraving available for wallplates; see pg. 408

## Direct lighting loads

-  Incandescent/halogen
-  Magnetic low-voltage
-  Electronic low-voltage
-  Fluorescent and LED (3-wire)
-  Tu-Wire® fluorescent
-  LED (2-wire forward phase)
-  Neon/cold cathode
-  Non-dim lighting
-  HID
-  Motor loads
-  Fan loads

## Dimensions and mounting

- Width: 2.94 in (75 mm)
- Height: 4.69 in (119 mm)
- Depth: 1.13 in (30 mm)
- Profile: 0.31 in (8 mm)
- Mounts into a 1-gang U.S. backbox, 3 in (89 mm) deep recommended, 2 in (57 mm) deep minimum

## Communication and wiring

- Communicates via Lutron® reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz or 315 MHz
- Operates at 120V @ 50/60 Hz; 277V models available; also at 100V @ 40/50 Hz; 100/200V models available
- RF range of 30 ft (9 m)

[Download specification submittal](#)  
[Download high resolution product image](#)

## Available finishes

Use **BOLD** color code in model number (Example: MRF2-600M-**PD**)

### Gloss finishes\*



**WH**  
White



**LA**  
Light Almond



**AL**  
Almond



**IV**  
Ivory



**GR**  
Gray



**BR**  
Brown



**BL**  
Black

### Satin finishes\*



**SW**  
Snow



**LS**  
Limestone



**BI**  
Biscuit



**ES**  
Eggshell



**PD**  
Palladium



**TP**  
Taupe



**ST**  
Stone



**BG**  
Bluestone



**PL**  
Plum



**SG**  
Sea Glass



**TQ**  
Turquoise



**GS**  
Goldstone



**DS**  
Desert Stone



**GB**  
Greenbriar



**MS**  
Mocha Stone



**TC**  
Terracotta



**SI**  
Sienna



**HT**  
Hot



**MR**  
Merlot



**MN**  
Midnight

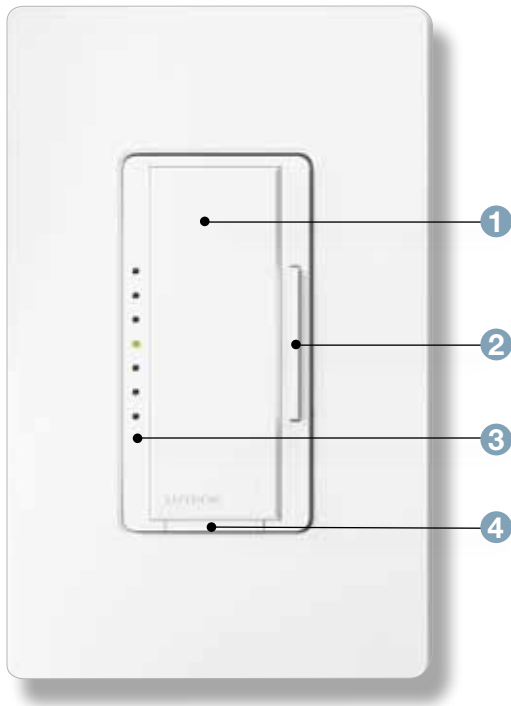


**SS\*\***  
Stainless Steel

\*Coordinating wallplates only available separately. For wallplate information, see pg. 392.

\*\*Stainless Steel wallplate includes black plastic trim/adaptor, visible from side. Match with separate Black (BL) or Midnight (MN) controls.

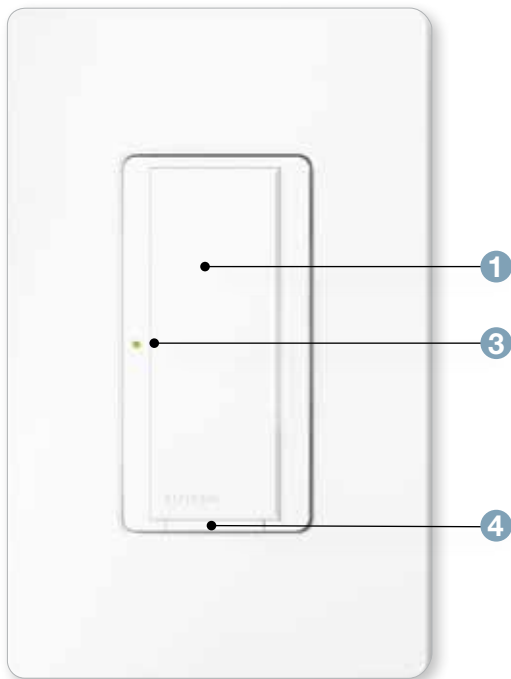
Explanation of features



Maestro Wireless dimmer

**Features**

<p><b>1</b> Tap button</p>	<ul style="list-style-type: none"> <li>• Tap once to turn on/off; tap twice to brighten to full intensity</li> </ul>
<p><b>2</b> Dimming rocker</p>	<ul style="list-style-type: none"> <li>• Press to brighten/dim</li> </ul>
<p><b>3</b> LEDs</p>	<ul style="list-style-type: none"> <li>• Indicate light level</li> </ul>
<p><b>4</b> FASS™</p>	<ul style="list-style-type: none"> <li>• Front Accessible Service Switch to disconnect power from the load for service</li> </ul>



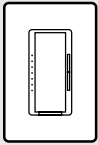
Maestro Wireless switch

.31 in (8 mm) | 1.13 in (30 mm)

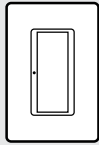
Two horizontal dimension lines are shown. The first line is positioned above the second line. The first line spans the thickness of the switch faceplate, with a vertical tick mark at each end. The second line spans the depth of the switch's mounting box, also with a vertical tick mark at each end.



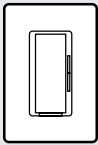
### Available models



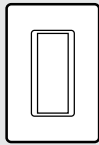
Dimmer



Switch



Companion dimmer



Companion switch

### Model numbers

 **Incandescent/halogen dimmers**

**Digital fade dimmer (434 MHz)**

Multi-location/single-pole 120V, 600W	MRF2-600M- <b>XX</b> <sup>1</sup>
--	-----------------------------------

Requires a minimum load of 50W.  
Compatible with Energi TriPak® system.

 **Incandescent/halogen or  
Magnetic low-voltage (MLV) dimmers**

**Digital fade dimmer (434 MHz)**

Multi-location/single-pole 120V, 600W/VA	MRF2-6MLV- <b>XX</b> <sup>1</sup>
---	-----------------------------------

Requires a minimum load of 50W.  
Compatible with Energi TriPak® system.

**Digital fade dimmers—specification grade  
(434 MHz)**

Multi-location/single-pole* 120V, 600W/VA	MRF2-6ND-120- <b>XX</b> <sup>1</sup>
Multi-location/single-pole 120V, 1000W/VA	MRF2-10D-120- <b>XX</b> <sup>1</sup>

The stated W (Watt) rating is the maximum incandescent lamp load. Ratings for MLV loads represent the maximum of the total lamp wattage plus MLV transformer loss (typically 20%).  
MRF2-6ND-120-XX requires a minimum load of 25W.  
MRF2-10D-120-XX requires a minimum load of 50W.  
Compatible with Energi TriPak system.

**XX<sup>1</sup>:** Gloss and Satin Colors® codes, see pg. 95 (Wallplates not included. Order separately, see pg. 408)

All models must be derated if ganged unless otherwise noted, see pgs. 433-435.

**\*Requires neutral wire connection.**

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.

## Model numbers (continued)

### **Electronic low-voltage (ELV) dimmers**

#### Digital fade dimmer (434 MHz)

Multi-location/single-pole* 120V, 600W	MRF2-6ELV-120- <b>XX</b> <sup>1</sup>
---	---------------------------------------

Only certain LED drivers are dimmable using an ELV dimmer. For more information visit

**www.lutron.com/LED.**

Requires a minimum load of 5W.

Compatible with Energi TriPak® system.

#### Digital switches—specification grade (434 MHz)

Multi-location/single-pole* 120V, 8A light, 5.8A fan (1/4 HP motor)	MRF2-8ANS-120- <b>XX</b> <sup>1</sup>
---	---------------------------------------

Multi-location/single-pole 120V, 8A light, 3A fan, 1/10HP motor	MRF2-8S-DV- <b>XX</b> <sup>1</sup>
---	------------------------------------

Multi-location/single-pole 277V, 8A light, 3A fan	MRF2-6ANS-277- <b>XX</b> <sup>1</sup>
--	---------------------------------------

Rated for: incandescent/halogen, magnetic low-voltage, electronic low-voltage, non-dim fluorescent ballasts, general purpose fans, and most non-dim LED drivers.

MRF2-8ANS-120-XX requires a minimum load of 25W lighting, 0.2A fan motor.

MRF2-8S-DV-XX requires a minimum load of 25W incandescent/halogen, 40W fluorescent/LED lighting, 0.4 fan motor.

MRF2-6ANS-277-XX requires a minimum load of 25W.

Compatible with Energi TriPak® system.

### **3-wire fluorescent or**

#### **Hi-lume® A-Series LED dimmer**

#### Digital fade dimmer—specification grade (434 MHz)

Multi-location/single-pole* 120/277V, 6A	MRF2-F6AN-DV- <b>XX</b> <sup>1</sup>
---	--------------------------------------

For use with Hi-lume 3D, EcoSystem® H-Series and EcoSystem ballasts.

Also compatible with the Hi-lume A-Series LED driver.

For more information on Hi-lume A-Series LED drivers, visit **www.lutron.com/HilumeLED.**

Low-end trim available via advanced programming.

Requires a minimum load of one ballast, 0.05A.

Compatible with Energi TriPak® system.

### **Switches**

#### Digital switch (434 MHz)

Multi-location/single-pole* 120V, 6A light, 3A fan 1/10HP motor	MRF2-6ANS- <b>XX</b> <sup>1</sup>
---	-----------------------------------

Rated for: incandescent/halogen, magnetic low-voltage, electronic low-voltage, non-dim fluorescent ballasts, general purpose fans, and most non-dim LED drivers.

Requires a minimum load of 25W lighting, 0.2A fan motor.

Compatible with Energi TriPak® system.

**XX**<sup>1</sup>: Gloss and Satin Colors® codes, see pg. 95 (Wallplates not included. Order separately, see pg. 408)

**XX**<sup>2</sup>: Gloss White (WH), Almond (AL), Black (BL), Brown (BR), Gray (GR), and Ivory (IV)

All models must be derated if ganged unless otherwise noted, see pgs. 433-435.

**\*Requires neutral wire connection.**

For specific radio frequency by country, refer to the radio frequency chart on pg. 465. For specific voltage by country information refer to the voltage chart on pg. 462.



## Model numbers (continued)

### Incandescent/halogen dimmers

#### Digital fade dimmer (315 MHz)

Multi-location/single-pole 100V, 500W/VA	MRF6-500M- <b>XX</b> <sup>2</sup>
---	-----------------------------------

Requires a minimum load of 50W.  
Compatible with Energi TriPak® system.

#### Switches

#### Digital switch (315 MHz)

Multi-location/single-pole 100/200V, 8A light, 3A fan, 1/10HP motor	MRF6-8S-DV- <b>XX</b> <sup>2</sup>
---	------------------------------------

Rated for: incandescent/halogen, magnetic low-voltage, electronic low-voltage, non-dim fluorescent ballasts, general purpose fans, and most non-dim LED drivers.  
Requires a minimum load of 25W incandescent/halogen/ELV/MLV lighting, 40W fluorescent/LED lighting, 0.4 fan motor.  
Compatible with Energi TriPak® system.

### Companion controls

#### Companion dimmers

Companion dimmer 120V	MA-R- <b>XX</b> <sup>1</sup> MSC-AD- <b>XX</b> <sup>2</sup>
Companion dimmer 277V	MA-R-277- <b>XX</b> <sup>1</sup> MSC-AD-277- <b>XX</b> <sup>2</sup>
Companion dimmer 100V (Japan)	MA-R-JA- <b>XX</b> <sup>3</sup>

No derating required if ganged.  
For multi-location control add up to nine companion dimmers to a single Maestro Wireless dimmer.

#### Companion switches

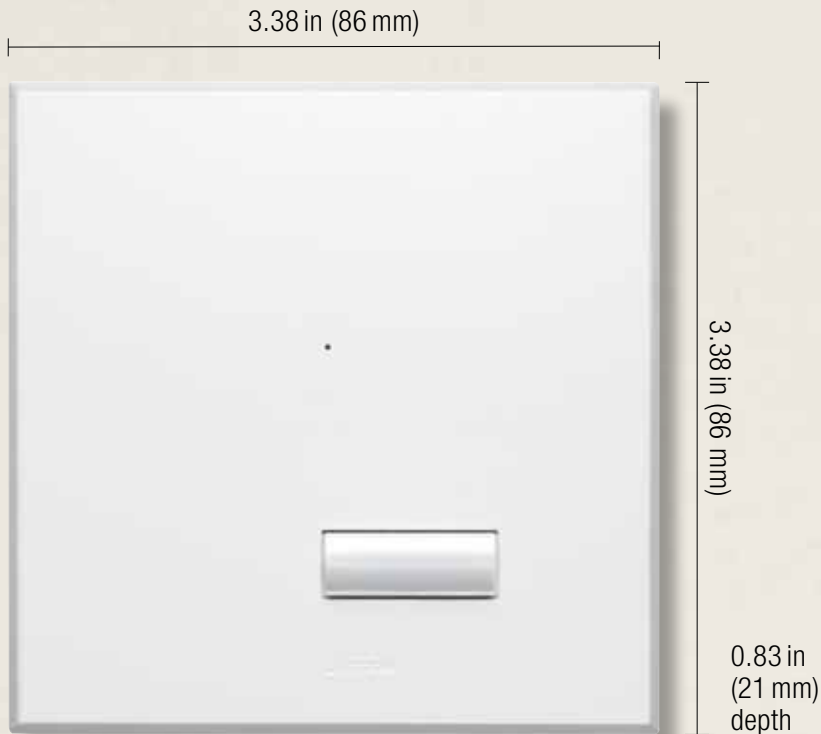
Companion switch 120V	MA-AS- <b>XX</b> <sup>1</sup> MSC-AS- <b>XX</b> <sup>2</sup>
Companion switch 277V	MA-AS-277- <b>XX</b> <sup>1</sup> MSC-AS-277- <b>XX</b> <sup>2</sup>
Companion switch 100V (Japan)	HD-RS-JA- <b>XX</b> <sup>3</sup>

No derating required if ganged.  
For multi-location control add up to nine companion switches to a single Maestro Wireless switch.

All models must be derated if ganged unless otherwise noted, see pgs. 433-435.





**XX**<sup>1</sup>: Gloss color codes, see pg. 95  
**XX**<sup>2</sup>: Satin Colors® codes, see pg. 95  
 (Wallplates not included. Order separately, see pg. 408)  
**XX**<sup>3</sup>: Gloss White (WH), Almond (AL), Black (BL), Brown (BR), Gray (GR) and Ivory (IV)

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
 For specific voltage by country information refer to the voltage chart on pg. 462.



Shown actual size: Rania® Wireless RF switch in Arctic White (RS-SA05-B-FAW) in an unframed faceplate

## Direct lighting loads

-  Non-dim lighting
-  HID
-  Motor loads
-  Fan loads

## Features and capacities

- Uses Lutron reliable Clear Connect® Radio Frequency (RF) technology which provides RF communication with Radio Powr Savr™ sensors (see pg. 228) and Pico® wireless controls (see pg. 164)
- Delayed off provides light as you exit the room
- Two-wire switch — no new wiring required
- Minimum load of 25 W
- Multi-way functionality through Rania accessory switches
- Power failure memory: should power be interrupted, the control will return to its previous state

- For multi-way switching, use only one Rania Wireless switch with up to a Rania accessory switch
- Faceplate included

## Dimensions and mounting

- Mountable in round or square backbox with a minimum depth of 1.38 in (35 mm)
- Trim ring is available for .98 in (25 mm) backbox
- Width: 3.38 in (86 mm)  
Height: 3.38 in (86 mm)  
Depth: 0.83 in (21 mm)  
Profile: 0.28 in (7 mm)

## Communication and wiring

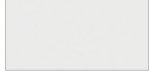
- Communicates via Lutron® reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 868 MHz, 868 limited channel MHz, or 865 MHz
- Operates at 220-240 V @ 50 Hz
- RF range of 30 ft (9 m)

[Download specification submittal](#)

## Available finishes

Use **BOLD** color code in model number (Example: RS-SA05-B-**FAW**)

### Matte Finishes



**AW**  
Arctic White

### Metallic Finishes



**MC**  
Mica



**AR**  
Argentum

### Available Metal Finishes



**BB**  
Bright Brass



**BC**  
Bright Chrome



**BN**  
Bright Nickel



**SB**  
Satin Brass



**AU**  
Gold Plated



**SC**  
Satin Chrome



**SN**  
Satin Nickel

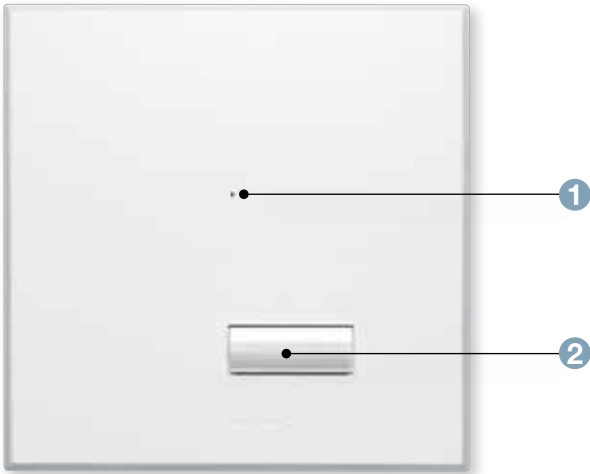


**QB**  
Antique Brass



**QZ**  
Antique Bronze

## Explanation of features



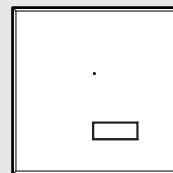
### Features

<p><b>1</b> LED</p>	<ul style="list-style-type: none"> <li>Indicates the load is on</li> </ul>
<p><b>2</b> Tap Button</p>	<ul style="list-style-type: none"> <li>Tap once to turn on/off; press and hold to activate delayed off</li> </ul>

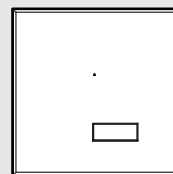
Rania Wireless RF Switch



### Available models



Switch



Companion switch

## Model numbers

### Switches

Digital multi-location/single-pole switches (868 MHz)  
220-240 V, 5 AX lighting, 4 A fan

Unframed faceplate	RS-SA05-B-F <b>XX</b> <sup>1</sup> -M
Frame/insert faceplate	RS-SA05-B-I <b>XX</b> <sup>1</sup> -M
Black frame/ metal insert faceplate	RS-SA05-B-B <b>XX</b> <sup>1</sup> -M

Rated for: incandescent, mains voltage halogen, compact fluorescent lamps (CFLs), fluorescent, electronic low-voltage, magnetic low-voltage, and motor loads.

Compatible with Energi TriPak® system.

Digital multi-location/single-pole switches and Radio Powr Savr™ occupancy/vacancy sensor kit (868 MHz)  
220-240 V, 5 AX lighting, 4 A fan

Unframed faceplate	RRF-SA05-B-F <b>XX</b> <sup>1</sup> -M
Frame/insert faceplate	RRF-SA05-B-B <b>XX</b> <sup>1</sup> -M
Black frame/ metal insert faceplate	RRF-SA05-B-I <b>XX</b> <sup>1</sup> -M

All above include one 868 MHz Rania Wireless RF switch and one 868 MHz Radio Powr Savr wireless occupancy/vacancy sensor.

Compatible with Energi TriPak system.

Digital multi-location/single-pole switches (868 limited channel MHz)

220-240 V, 5 AX lighting, 4 A fan

Unframed faceplate	RS-SB05-B-F <b>XX</b> <sup>1</sup> -M
Frame/insert faceplate	RS-SB05-B-I <b>XX</b> <sup>1</sup> -M
Black frame/ metal insert faceplate	RS-SB05-B-B <b>XX</b> <sup>1</sup> -M

Rated for: incandescent, mains voltage halogen, CFLs, fluorescent, electronic low-voltage, magnetic low-voltage, and motor loads.

Compatible with Energi TriPak system.

Digital multi-location/single-pole switches and Radio Powr Savr occupancy/vacancy sensor kit (868 limited channel MHz)

220-240 V, 5 AX lighting, 4 A fan

Unframed faceplate	RRF-SB05-B-F <b>XX</b> <sup>1</sup> -M
Frame/insert faceplate	RRF-SB05-B-B <b>XX</b> <sup>1</sup> -M
Black frame/ metal insert faceplate	RRF-SB05-B-I <b>XX</b> <sup>1</sup> -M

All above include one Rania Wireless RF switch and one Radio Powr Savr wireless occupancy/vacancy sensor, both at 868 MHz limited channel.

Compatible with Energi TriPak system.

Digital multi-location/single-pole switches (865 MHz)  
220-240 V, 5 AX lighting, 4 A fan

Unframed faceplate	RS-SN05-B-F <b>XX</b> <sup>2</sup> -M
--------------------	---------------------------------------

Rated for: incandescent, mains voltage halogen, CFLs, fluorescent, electronic low-voltage, magnetic low-voltage, and motor loads.

Compatible with Energi TriPak system.

### Companion Switches

Accessory switch, frameless faceplate	RS-SNAS-B-F <b>XX</b> <sup>1</sup> -M
Accessory switch, frame/insert faceplate	RS-SNAS-B-I <b>XX</b> <sup>1</sup> -M
Accessory switch, black frame/metal insert faceplate	RS-SNAS-B-B <b>XX</b> <sup>1</sup> -M

For multi-location control add up to nine companion switches to a single Rania Wireless RF switch.

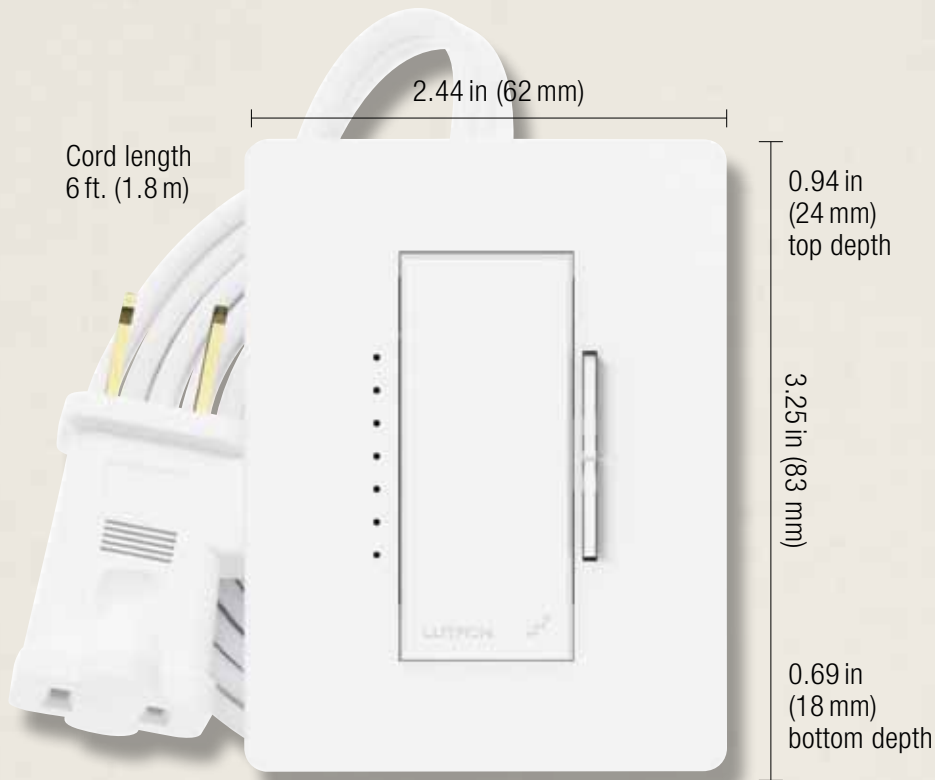
### Interfaces

- **To increase load capacity:**

- Max. 1 840W of 230V~ loads use RN-PB-B-AW-M
- Max. 1 200W /A of 12V~ loads use RN-ELVI-B-AW-M
- Switch fluorescent controls up to 10A use RN-TVI-B-M

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.

**XX**<sup>1</sup>: Available in metallic and metal finishes, see pg. 109



Shown actual size: Maestro Wireless tabletop lamp dimmer in White (MRF2-3LD-WH)

### Direct lighting loads

- 💡 Incandescent/halogen
- 💡 Magnetic low-voltage
- 🔌 Non-dim lighting

### Features and capacities

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology with Radio Power Savr™ sensors (pgs. 228, 232, 239) and Pico® wireless controls (pg. 164)
- Light levels can be fine-tuned to the desired level
- Incorporates advanced features such as fade on/fade off, delayed long fade off, and rapid full on
- On a single tap, lights fade on or off
- On a double tap, lights go to full on
- When on, press and hold to engage the delayed long fade to off
- Minimum load is 10W
- Power failure memory: should power be interrupted, the control will return to its previous state

### Dimensions and mounting

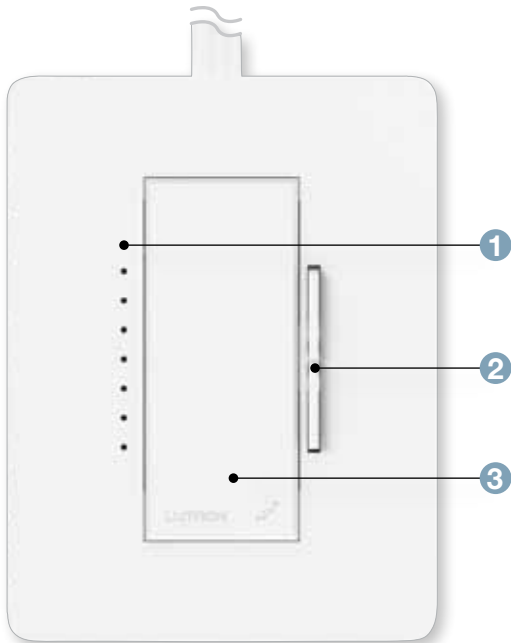
- Width: 2.44 in (62 mm)
- Height: 3.25 in (83 mm)
- Top Depth: 0.94 in (24 mm)
- Bottom Depth: 0.69 in (18 mm)

### Communication and wiring

- Communicates via Lutron® reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz
- Easy to install, no wiring required
- Cord is 6 ft (1.8m) long
- RF range of 30 ft (9m)

[Download specification submittal](#)  
[Download high resolution product image](#)

### Explanation of features



Features	
1 Status LEDs	• Indicates light level; glows softly as night light when light is off
2 Dimming rocker	• Press up to brighten, down to dim
3 Tapswitch	• Tap on/off

Maestro Wireless tabletop lamp dimmer



### Available finishes

#### Matte finishes

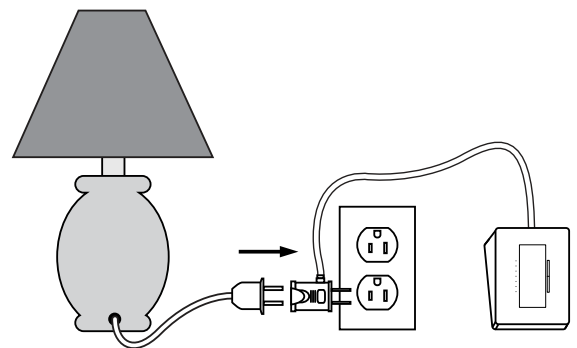


**WH**  
White



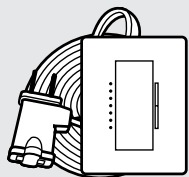
**BL**  
Black

### Installation





## Available models



Maestro Wireless  
tabletop lamp dimmer

## Model numbers

### **Maestro Wireless tabletop lamp dimmer** (434 MHz)

 **Incandescent/halogen**

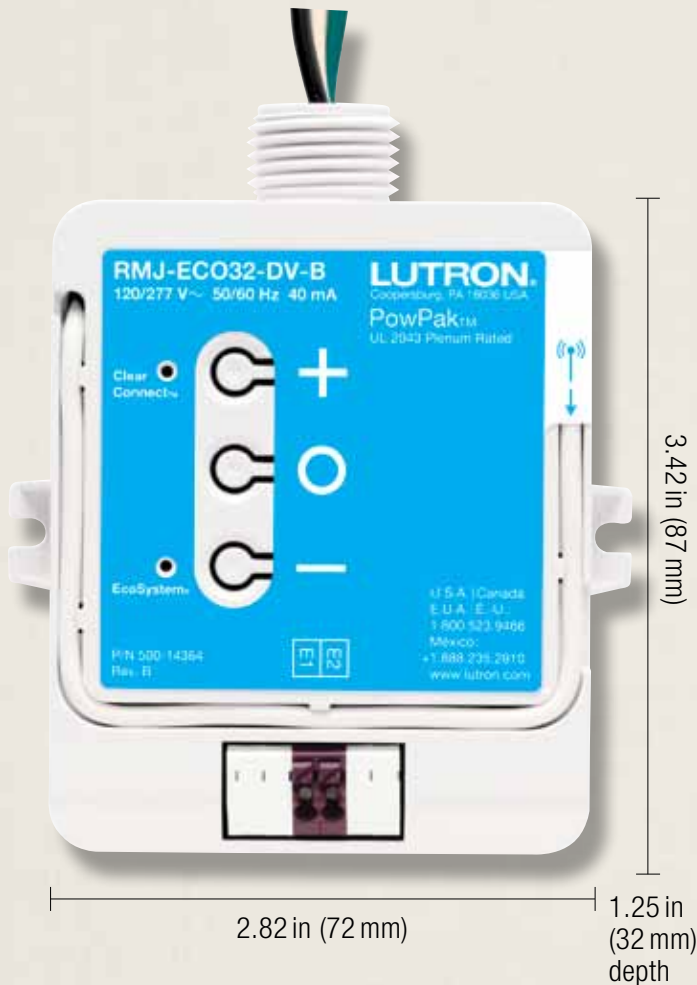
Plug-in lamp dimmer  
120V, 300W

MRF2-3LD-**XX**<sup>1</sup>

Compatible with Energi TriPak® system.

**XX**<sup>1</sup>: Available in White (WH) and Black (BL),  
see pg. 105

For specific voltage by country information  
refer to voltage chart on pg. 461.



Shown actual size: PowPak dimming module with EcoSystem (RMJ-ECO32-DV-B)  
All PowPak modules are the same size.

### Direct lighting loads

Fluorescent and LED (EcoSystem)

### Features and capacities

- Controls up to 32 (EcoSystem H-Series) EcoSystem®, or Hi-lume® 3D ballasts, or Hi-lume A-Series LED drivers
- Receives input from up to 9 Pico® wireless controls, (pg. 164), 6 Radio Powr Savr™ occupancy/vacancy sensors (pgs. 228, 232), and 1 Radio Powr Savr daylight sensor via Lutron reliable Clear Connect® RF technology (pg. 239)
- Lutron EcoSystem technology facilitates individual ballast addressing for control of ballasts individually or in groups
- Allows simple reconfiguration of a space without having to move a single wire
- Save energy through high-end trim, occupancy/vacancy sensing, daylight harvesting and personal control without the need for additional wires
- Button-press programming means no commissioning is required

### Dimensions and mounting

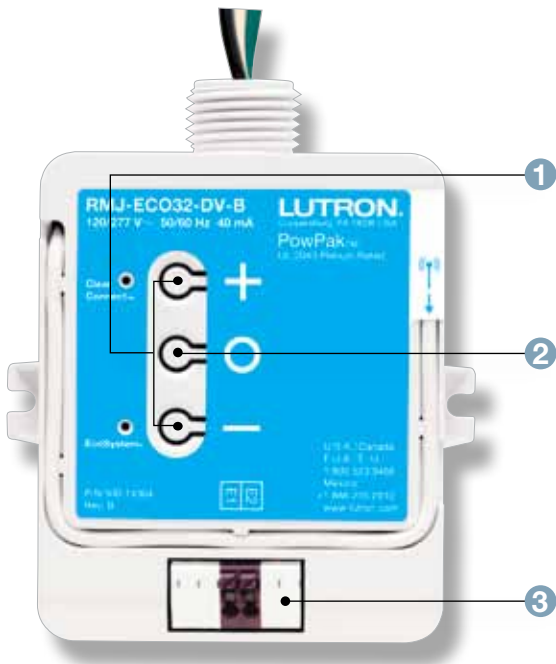
- Width: 2.82 in (72 mm)  
Height: 3.42 in (87 mm)  
Depth: 1.25 in (32 mm)
- Mounts through a knock-out to a 1/2 in NPT trade size junction box or to a fixture; can also be mounted inside of a standard 4 in x 4 in junction box

### Communication and wiring

- Communicates via Lutron® reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 315 MHz, 434 MHz, 434 limited channel MHz, or 868 limited channel MHz
- RF range of 30 ft (9 m)

[Download specification submittal](#)  
[Download high resolution product image](#)

## Explanation of features



### Features

<p><b>1</b> Raise/lower buttons</p>	<ul style="list-style-type: none"> <li>• Press to adjust lights to desired level</li> <li>• Program occupancy levels and set up daylighting</li> </ul>
<p><b>2</b> All-on button</p>	<ul style="list-style-type: none"> <li>• Press for full-on</li> <li>• Associate module to wireless transmitters</li> </ul>
<p><b>3</b> EcoSystem digital link</p>	<ul style="list-style-type: none"> <li>• Ballasts can be connected on the digital link</li> </ul>

## Model numbers

120/277V @ 50/60Hz (434 MHz)

PowPak dimming module with EcoSystem	RMJ-ECO32-DV-B
--------------------------------------	----------------

220–240V @ 50/60Hz (434 limited channel MHz)

PowPak dimming module with EcoSystem	RMQ-ECO32-DV-B
--------------------------------------	----------------

220–240V @ 50/60Hz (868 limited channel MHz)

PowPak dimming module with EcoSystem	RMM-ECO32-DV-B
--------------------------------------	----------------

100V @ 50/60Hz (315 MHz)

PowPak dimming module with EcoSystem	RMP-ECO32-JA-B
--------------------------------------	----------------

200V @ 50/60Hz (315 MHz)

PowPak dimming module with EcoSystem	RMP-ECO32-200-JA
--------------------------------------	------------------

Compatible with Energi TriPak® system.

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.



Shown actual size: PowPak relay module with Softswitch (RMJ-16RCCO1-DV-B)

**Direct lighting loads**

- Non-dim lighting
- HID
- Motor loads
- Fan loads
- 15A receptacles

[Download specification submittal for PowPak relay module](#)

[Download specification submittal for PowPak relay module with SoftSwitch](#)

[Download high resolution product image](#)

**Features and capacities**

- 5A or 16A general purpose switch (all lighting loads)
- Motor rating
  - 5A**
    - RMJ models: 1/6HP (120V), 1/3HP (277V)
    - RMQ models: 1/2HP (220-240V)
    - RMM models: 1/2HP (220-240V)
  - 16A**
    - RMJ models: 0.5HP (120V), 1.5HP (277V)
    - RMQ models: 1.5HP (220-240V)
    - RMM models: 1/2HP (220-240V)
    - RMP models: 1000W (100V)
- Receives input from up to 9 Pico® wireless controls (pg. 164), 6 Radio Powr Savr™ occupancy/vacancy sensors (pgs. 228, 232), and 1 Radio Powr Savr daylight sensor via Lutron reliable Clear Connect® RF technology (pg. 239)
- Model available with a dry contact closure output for integration with third-party equipment; contact closure output provides occupancy/vacancy status
- 16A model uses patented Softswitch® technology; extends relay life to an average of 1,000,000 cycles
- Save energy with the addition of occupancy sensing, daylight harvesting, and personal control without the need for additional wires
- Button-press programming associates the module with Radio Powr Savr sensors and Pico wireless controls

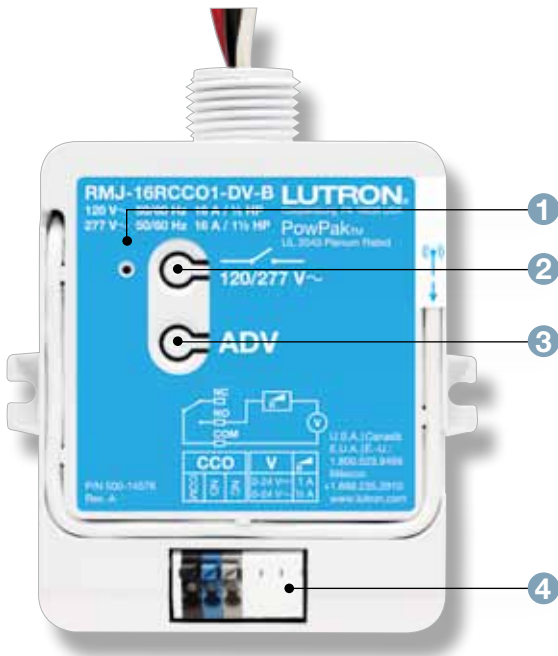
**Dimensions and mounting**

- Width: 2.82 in (72 mm)
- Height: 3.42 in (87 mm)
- Depth: 1.25 in (32 mm)
- Mounts through a 1/2 in NPT trade size knock-out to a junction box or to a fixture; can also be mounted inside of a standard 4 in x 4 in junction box

**Communication and wiring**

- Communicates via Lutron® reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 315MHz, 434MHz, 434 limited channel MHz, or 868 limited channel MHz
- RF range of 30ft (9m)

## Explanation of features



### Features

1 Load status LED	<ul style="list-style-type: none"> <li>Signals that device is on/off</li> </ul>
2 Relay toggle	<ul style="list-style-type: none"> <li>Use to associate modules to wireless transmitters</li> </ul>
3 Advanced operations	<ul style="list-style-type: none"> <li>Use to reset module to default settings</li> </ul>
4 Contact closure output terminals	<ul style="list-style-type: none"> <li>Connect to third-party devices</li> </ul>

## Model numbers

### 120/277 V @ 50/60Hz (434 MHz)

PowPak relay module, 5A	RMJ-5R-DV-B
PowPak relay module with occupancy-status—contact closure output, 5A	RMJ-5RCCO1-DV-B
PowPak relay module, 16A	RMJ-16R-DV-B
PowPak relay module with Softswitch® and occupancy-status—contact closure output, 16A	RMJ-16RCCO1-DV-B

Compatible with Energi TriPak® system.

### 220–240V @ 50/60Hz (434 limited channel MHz)

PowPak relay module, 5A	RMQ-5R-DV-B
PowPak relay module with occupancy-status—contact closure output, 5A	RMQ-5RCCO1-DV-B
PowPak relay module, 16A	RMQ-16R-DV-B
PowPak relay module with Softswitch and occupancy-status—contact closure output, 16A	RMQ-16RCCO1-DV-B

Compatible with Energi TriPak system.

### 220–240V @ 50/60Hz (868 limited channel MHz)

PowPak relay module, 5A	RMM-5R-DV-B
PowPak relay module with occupancy-status—contact closure output, 5A	RMM-5RCCO1-DV-B
PowPak relay module, 16A	RMM-16R-DV-B
PowPak relay module with Softswitch and occupancy-status—contact closure output, 16A	RMM-16RCCO1-DV-B

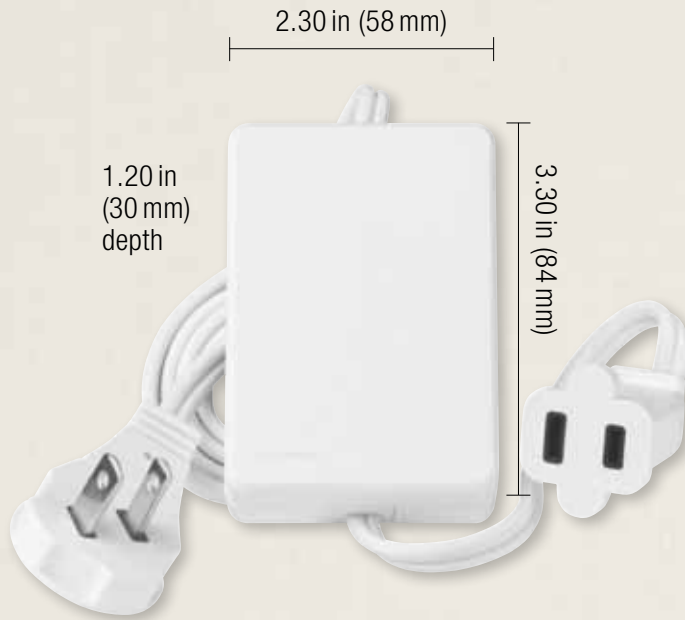
Compatible with Energi TriPak system.

### 100V @ 50/60Hz (315 MHz)

PowPak relay module 16A	RMP-16R-JA-B
PowPak relay module with occupancy-status—contact closure output, 16A	RMP-16RCCO1-JA-B

Compatible with Energi TriPak system.



For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.




Shown above: 1-receptacle PowPak plug-in dimming module in White (MRF2-3PD-1-WH)

**Direct lighting loads**






**PowPak dimming module (dimming mode)**

-  Incandescent/halogen
-  Magnetic low-voltage

**PowPak dimming module (switching mode)**

-  Non-dim lighting

**PowPak appliance module**

-  General purpose
-  Non-dim lighting
-  HID
-  Motor loads
-  Fan loads

[Download specification submittal for plug-in dimming module](#)

[Download specification submittal for plug-in appliance module](#)

[Download high resolution product image for plug-in dimming module](#)

[Download high resolution product image for plug-in appliance module](#)

**Features and capacities**

- Dimming module functions much like standard lamp dimmers, and incorporates advanced features such as fade on/fade off, delayed long fade off, and rapid full on
- Appliance module switches up to 15A of general purpose load (1/2 HP motor load); it features Lutron patented Softswitch® technology to prevent the relay contacts from arcing, extending the average life of the switch
- Utilizes Lutron reliable Clear Connect® RF technology to communicate wirelessly with up to 10 transmitting devices: Radio Powr Savr™ sensors (pgs. 228, 232, 239) and/or Pico® wireless controls (pg. 164)
- Controls always operate locally, do not require system control
- Available in White or Black finish
- Available in 1- or 3-receptacle models
- Easy to install, requires no wires or tools
- Simple, button-press programming to associate with Radio Powr Savr sensors and Pico wireless controls
- 10W minimum load for dimming module

**Dimensions and mounting**

PowPak dimming and appliance modules:

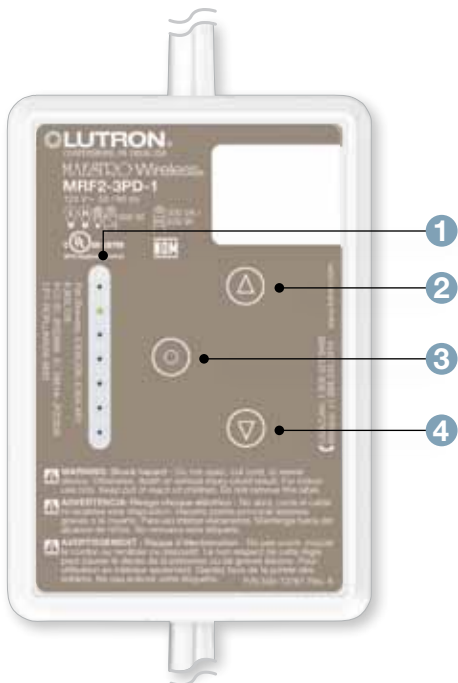
- Width: 2.30 in (58 mm)
- Height: 3.30 in (84 mm)
- Depth: 1.20 in (30 mm)
- Module can be hidden discretely behind furniture

**Communication and wiring**

- Male plug on 24 in (610 mm) cord
- Female receptacle on 6 in (150 mm) cord
- Communicates via Lutron® reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz
- RF range of 30 ft (9 m)



## Explanation of features



Back of PowPak plug-in dimming module (full cord length not shown)

### Features

<b>1</b> Status LEDs	<ul style="list-style-type: none"> <li>Indicate light level; glow softly as night light when load is off</li> </ul>
<b>2</b> Raise button	<ul style="list-style-type: none"> <li>Press to brighten</li> </ul>
<b>3</b> Toggle button	<ul style="list-style-type: none"> <li>Press to toggle on/off; double tap for full on; press and hold while on for delayed long fade to off</li> </ul>
<b>4</b> Lower button	<ul style="list-style-type: none"> <li>Press to dim</li> </ul>



## Available finishes

### Matte finishes

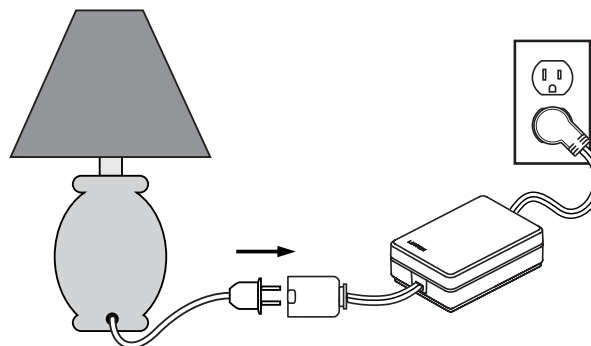


**WH**  
White



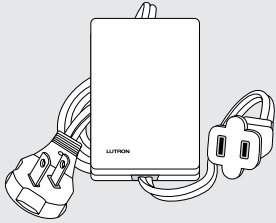
**BL**  
Black

## Installation

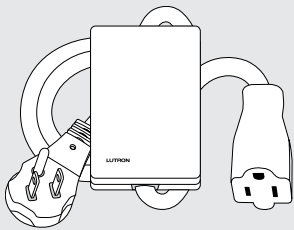




## Available models



Dimming/switching module  
(with 2-prong plug)



Appliance module  
(with 3-prong plug)

## Model numbers

### PowPak plug-in dimming module (434 MHz)

1-receptacle, 120V, 300W/VA      MRF2-3PD-1-**XX**<sup>1</sup>

3-receptacle, 120V, 300W/VA      MRF2-3PD-3-**XX**<sup>1</sup>

Compatible with Energi TriPak® system.

### PowPak plug-in appliance module (434 MHz)

1-receptacle, 120V, 15 A      MRF2-15APS-1-**XX**<sup>1</sup>

3-receptacle, 120V, 15 A      MRF2-15APS-3-**XX**<sup>1</sup>

Compatible with Energi TriPak system.

**XX**<sup>1</sup>: Available in White (WH) and Black (BL),  
see pg. 112

For specific voltage by country information  
refer to voltage chart on pg. 462.



Shown above: 4 ft., 2-lamp, T8 PowPak stairwell fixture with factory preset 50% high-end and 10% low-end (FXSW23214HDU51)

Profile  
3.88 in  
(98 mm)



### Product family features

- Lighting fixture solution that automatically adjusts light output based on stairwell occupancy
- Utilizes a Lutron wireless lighting control preprogrammed to occupied and unoccupied light levels that are specific to a project's code requirements
- Integral dimmer receives signal from Radio Powr Savr™ occupancy/vacancy sensors (sold separately – see pg. 228, 232) via Lutron reliable Clear Connect® RF technology
- Provides the flexibility to determine occupancy/vacancy sensor quantities, mounting configuration, and placement per the stairwell design
- Available in 2,3, or 4 ft\*, 1 or 2 lamp, and T8, T8 reduced wattage, T5HE or T5HO lamp options
- Optional emergency ballast battery backup available (except 2 ft versions)
- Vandal-resistant 2 or 4 ft. fixture available – heavy-duty solution with vandal-proof lens and hidden wireless control; ideal for use in public spaces

\* 8 ft. fixture available upon request

[Download specification submittal for PowPak Stairwell Fixture](#)  
[Download specification submittal for PowPak Vandal-Resistant Stairwell Fixture](#)  
[Download high resolution product image](#)

## Dimensions and mounting

- 2 ft:  
Width: 26.75 in (679 mm);  
Height: 4.38 in (111 mm);  
Profile: 3.88 in (98 mm)
- 3 ft:  
Width: 38.75 in (984 mm);  
Height: 4.38 in (111 mm);  
Profile: 3.88 in (98 mm)
- 4 ft:  
Width: 51.13 in (1299 mm);  
Height: 4.38 in (111 mm);  
Profile: 3.88 in (98 mm)
- 2 ft vandal resistant:  
Width: 25 in (635 mm);  
Height: 9 in (229 mm);  
Profile: 3.25 in (83 mm)
- 4 ft vandal resistant:  
Width: 49 in (1245 mm);  
Height: 9 in (229 mm);  
Profile: 3.25 in (83 mm)
- Ceiling or wall surface-mount

## Communication and wiring

- 120/277V universal input voltage, 434 MHz
- 220–240V input, 434 limited channel MHz
- RF range of 30 ft (9m)

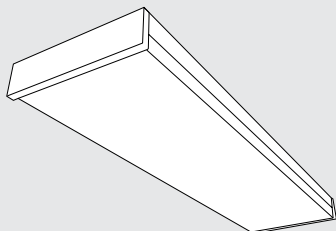
## Model numbers

For model numbers visit [www.lutron.com](http://www.lutron.com)

## Available models



PowPak stairwell fixture



PowPak vandal-resistant stairwell fixture





Shown actual size: Designer dimmer in White (RRD-6D-WH) with 1-gang Claro wallplate in White (CW-1-WH)

**Features and capacities**

- Wired like standard dimmers and switches, but can be controlled as part of a lighting control system
- Dimmers incorporate advanced features such as fade on/fade off, long fade off, and rapid full on
- Light levels can be fine tuned by pressing and holding the dimming rocker until the desired light level is reached
- Can be installed in single-pole or multi-location applications
- Up to nine remote dimmers/switches may be connected to the dimmer/switch for multi-location dimming
- Coordinating Claro®, Satin Colors® and Stainless Steel wallplates (available separately), see pg. 408
- A RadioRA 2 system can have up to 100 devices per main repeater and up to two main repeaters per system (requires qualification of installer)

**Dimensions and mounting**

- Width: 2.94 in (75 mm)  
Height: 4.69 in (119 mm)  
Depth: 1.13 in (30 mm)  
Profile: 0.31 in (8 mm)
- Mounts into a 1-gang U.S. backbox, 3 in (89 mm) deep recommended, 2 in (57 mm) deep minimum

**Direct lighting loads**

- Incandescent/halogen
- Magnetic low-voltage
- Electronic low-voltage
- Fluorescent and LED (3-wire)
- LED (2-wire forward phase)
- Tu-Wire® fluorescent
- CFL/LED (screw-base)\*
- Neon/cold cathode
- Non-dim lighting
- HID
- Motor loads
- Fan loads

**Communication and wiring**

- Communicates via Lutron reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz band
- Dimmers and switches must be located within 30 ft (9 m) of a repeater
- Operates at 120V @ 50/60Hz; 277V models available for some loads

[Download specification submittal](#)  
[Download high resolution product image](#)

• Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for a complete list of LEDs compatible with the adaptive and neutral wire (1000 W) dimmers.



## Available finishes

Use **BOLD** color code in model number (Example: RRD-6D-**WH**)

### Gloss finishes\*



**WH**  
White



**LA**  
Light Almond



**AL**  
Almond



**IV**  
Ivory



**GR**  
Gray



**BR**  
Brown



**BL**  
Black

### Satin finishes\*



**SW**  
Snow



**LS**  
Limestone



**BI**  
Biscuit



**ES**  
Eggshell



**PD**  
Palladium



**TP**  
Taupe



**ST**  
Stone



**BG**  
Bluestone



**PL**  
Plum



**TQ**  
Turquoise



**GS**  
Goldstone



**DS**  
Desert Stone



**GB**  
Greenbriar



**MS**  
Mocha Stone



**TC**  
Terracotta



**SI**  
Sienna



**HT**  
Hot



**MR**  
Merlot



**MN**  
Midnight

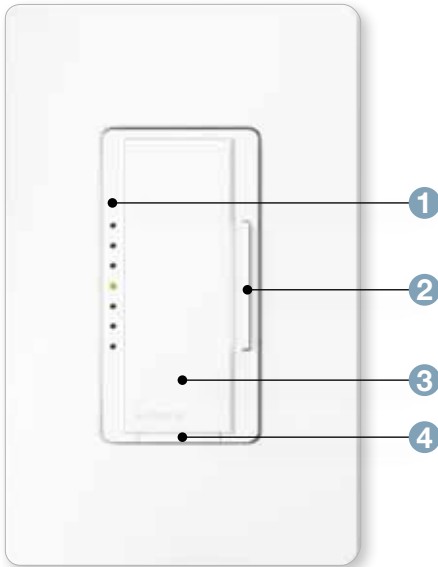


**SS\*\***  
Stainless Steel  
(wallplate only)

\*Coordinating wallplates only available separately. For wallplate information, see pg. 408.

\*\*Stainless Steel wallplate includes black plastic trim/adaptor, visible from side. Match with separate Black (BL) or Midnight (MN) controls.

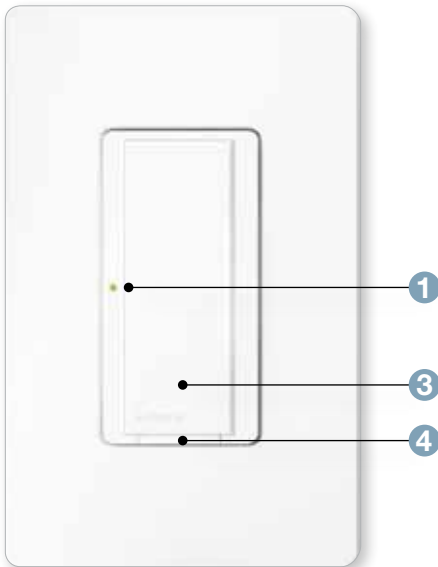
### Explanation of features



RadioRA 2 designer dimmer

#### Features

<p><b>1</b> Status LEDs</p>	<ul style="list-style-type: none"> <li>Indicate light level; glow softly as night light when light is off (not available on remote dimmers/switches)</li> </ul>
<p><b>2</b> Dimming rocker</p>	<ul style="list-style-type: none"> <li>Press up to brighten, down to dim</li> </ul>
<p><b>3</b> Tapswitch</p>	<ul style="list-style-type: none"> <li>Tap on/off</li> </ul>
<p><b>4</b> FASS™</p>	<ul style="list-style-type: none"> <li>Front Accessible Service Switch to disconnect power from the load for service</li> </ul>

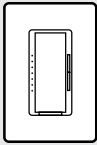


RadioRA 2 designer switch

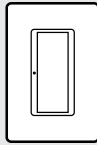
.31 in (8 mm)    1.13 in (30 mm)



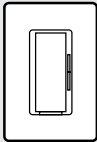
### Available models



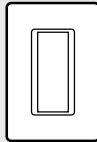
Designer dimmer



Designer switch



Remote dimmer



Remote switch

### Model numbers

#### Dimmers

**Incandescent/halogen or Magnetic low-voltage (MLV) dimmers**

Single-pole/multi-location 120V 600W/600VA <sup>2</sup>	RRD-6D- <b>XX</b> <sup>1</sup>
Single-pole/multi-location 120V 1000W/1000VA <sup>2</sup>	RRD-10D- <b>XX</b> <sup>1</sup>
Single-pole/multi-location <sup>1</sup> 120V 600W/600VA <sup>3</sup>	RRD-6NA- <b>XX</b> <sup>1</sup>
Single-pole/multi-location <sup>1</sup> 120V 1000W/1000VA <sup>4</sup>	RRD-10ND- <b>XX</b> <sup>1</sup>

The stated W (Watt) rating is the maximum incandescent lamp load. Ratings for MLV loads represent the maximum of the total lamp wattage plus MLV transformer loss (typically 20%).  
Compatible with Radio RA2 system.

**Incandescent/halogen or Electronic low-voltage (ELV) dimmer**

Single-pole/multi-location <sup>1</sup> 120V 600W/600VA <sup>3</sup>	RRD-6NA- <b>XX</b> <sup>1</sup>
---	---------------------------------

Compatible with Radio RA2 system.

**XX**<sup>1</sup>: Gloss and Satin Colors® codes, see pg. 118 (Wallplates not included. Order separately, see pg. 408)

All models must be derated if ganged unless otherwise noted, see pgs. 433-435.

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.

For specific voltage by country information refer to voltage chart on pg. 462.


<sup>1</sup>Requires neutral wire connection.

<sup>2</sup>Requires minimum load of 50W.

<sup>3</sup>Requires minimum load of 5W.

<sup>4</sup>Requires minimum load of 10W.




 **Incandescent/halogen or Dimmable LED bulbs (screw-base) dimmer**

Single-pole/multi-location<sup>1</sup> RRD-6NA-**XX**<sup>1</sup>  
120V 600W/600VA<sup>2</sup>

Single-pole/multi-location RRD-10ND-**XX**<sup>1</sup>  
120V 1000W/1000VA<sup>3</sup>

Compatible with Radio RA2 System.

 **Incandescent/halogen or Dimmable CFL bulbs (screw-base) dimmer**

Single-pole/multi-location<sup>1</sup> RRD-6NA-**XX**<sup>1</sup>  
120V 600W/600VA<sup>2</sup>

Single-pole/multi-location<sup>1</sup> RRD-10ND-**XX**<sup>1</sup>  
120V 1000W/1000VA<sup>3</sup>

For a list of approved screw-in, dimmable LED lamps, see [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool).

Compatible with Radio RA2 System.

 **3-wire fluorescent/Hi-lume® A-Series LED dimmer**

Single-pole/multi-location<sup>1</sup> RRD-F6AN-DV-**XX**<sup>1</sup>  
120/277V 6A

For use with Hi-lume 3D, EcoSystem® H-Series, and EcoSystem ballasts.

Also compatible with the Hi-lume A-Series LED driver.

For more information on Hi-lume A-Series LED drivers, visit [www.lutron.com/HilumeLED](http://www.lutron.com/HilumeLED).

Low-end trim available via advanced programming.

Requires minimum load of 0.05A.

Compatible with Radio RA2 System.

**Remote dimmers**

All models must be derated if ganged unless otherwise noted, see pgs. 433-435.

## Model numbers

### Remote dimmer

Multi-location RD-RD-**XX**<sup>1</sup>  
120V

Multi-location RD-RD-277-**XX**<sup>1</sup>  
277V

For multi-location control add up to nine remote dimmers to a single RadioRA 2 dimmer.

277V model for use with RRD-F6AN-DV-XX

### Switches and remote switches

#### Switch

Multi-location/single-pole<sup>1</sup> RRD-8ANS-**XX**<sup>1</sup>  
120V 8A light or 1/4 HP motor 5.8A motor

Dual-voltage, RRD-8S-DV-**XX**<sup>1</sup>  
two wire electronic switch<sup>4</sup>

120/277V 8A light, 1/10HP 3A motor

RRD-8ANS-XX requires minimum load of 10W/0.08A

RRD-8S-DV-XX requires minimum load of 40W/0.4A

Compatible with Radio RA2 System.

#### Remote switch

Multi-location RD-RS-**XX**<sup>1</sup>  
120V

Multi-location RD-RS-277-**XX**<sup>1</sup>  
277V

For multi-location control add up to nine remote switches to a single RadioRA 2 switch.

277V model for use with dual RRD-8S-DV-XX.

**XX**<sup>1</sup>: Gloss and Satin Colors® codes, see pg. 118 (Wallplates not included. Order separately, see pg. 408)

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.

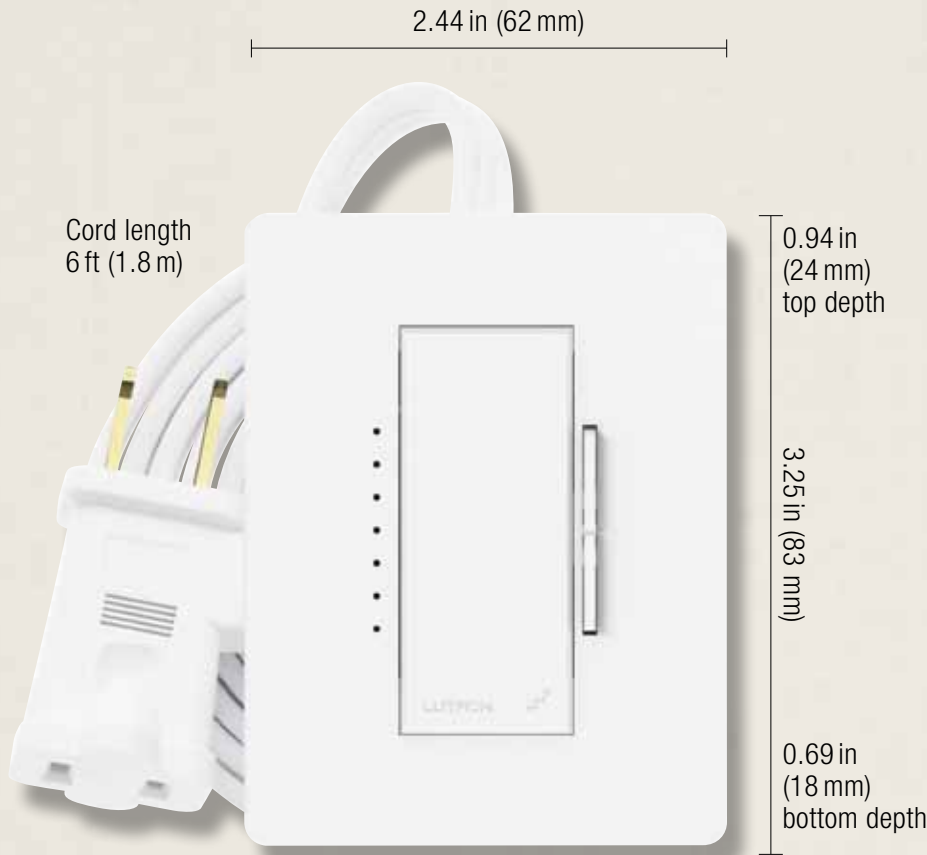
For specific voltage by country information refer to voltage chart on pg. 462.

<sup>1</sup>Requires neutral wire connection.

<sup>2</sup>Requires minimum load of 5W.




<sup>3</sup>Requires minimum load of 10W.

<sup>4</sup>Requires shunt capacitor.



Shown above: RadioRA 2 tabletop lamp dimmer in Snow (RRD-3LD-SW)

### Direct lighting loads

-  Incandescent/halogen
-  Magnetic low-voltage
-  Non-dim lighting

### Features and capacities

- Lamp dimmers incorporate advanced features such as fade on/fade off, delayed long fade off, and rapid full on
- On a single tap, lights fade on or off
- On a double tap, lights go to full on
- When on, press and hold to engage the delayed long fade to off
- Light levels can be fine-tuned by pressing and holding the dimming rocker until the desired light level is reached
- Cord is 6 ft (1.8 m) long
- Minimum load is 10W

### Dimensions and mounting

- Width: 2.44 in (62 mm)
- Height: 3.25 in (83 mm)
- Top Depth: 0.94 in (24 mm)
- Bottom Depth: 0.69 in (18 mm)

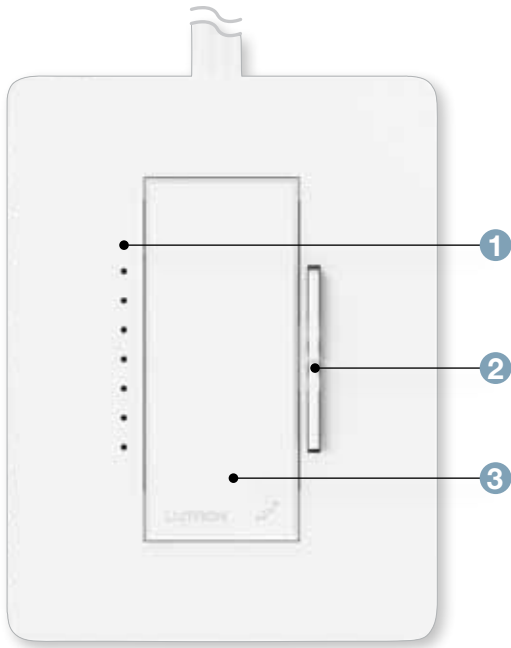
### Communication and wiring

- Communicates via Lutron® reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz
- Lamp dimmers must be located within 30 ft (9 m) of a main/auxiliary repeater
- Easy to install, no mounting required

[Download specification submittal](#)

[Download high resolution product image](#)

Explanation of features



Features	
1 Status LEDs	• Indicates light level; glows softly as night light when light is off
2 Dimming rocker	• Press up to brighten, down to dim
3 Tapswitch	• Tap on/off

RadioRA 2 tabletop lamp dimmer



## Available finishes

### Satin finish



**SW**  
Snow



**MN**  
Midnight

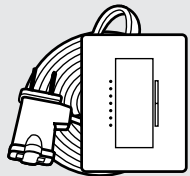
## Model numbers

### RadioRA 2 tabletop lamp dimmers

-  Incandescent/halogen
-  Magnetic low-voltage (MLV)

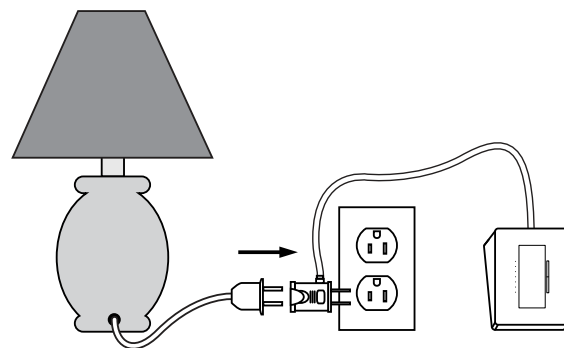
Plug-in lamp dimmer	RRD-3LD- <b>XX</b> <sup>1</sup>
120V/300W @ 50/60Hz (Inc/hal)	
120V/200W/300VA @ 50/60Hz (MLV)	
Compatible with RadioRA 2 system.	

## Available models



RadioRA 2 tabletop lamp dimmer

## Installation



**XX**<sup>1</sup>: Available in Snow (SW) and Midnight (MN)



For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.



Shown actual size: RF plug-in dimming module (RR-3PD-1-SW)  
(Full cord length not shown)

### Direct lighting loads





#### Plug-in dimming module (dimming mode)

-  Incandescent/halogen
-  Magnetic low-voltage

#### Plug-in dimming module (switching mode)

-  Non-dim lighting

#### Plug-in appliance module

-  General purpose
-  Non-dim lighting
-  Motor loads
-  Fan loads

### Features and capacities

- Dimming module functions like tabletop lamp dimmers, and incorporates advanced features such as fade on/fade off, delayed long fade off, and rapid full on
- Button-press programming changes to switching-only mode
- Appliance module switches up to 15A of general purpose load; it features Lutron patented Softswitch® technology to prevent the relay contacts from arcing, extending the average life of the switch
- Appliance module may be used with (but is not limited to) task lighting, monitors, printers, and fans
- A RadioRA 2 system can have up to 100 devices per main repeater, and up to two main repeaters per system (requires qualification of installer)
- 10W minimum load for dimming module

### Dimensions and mounting

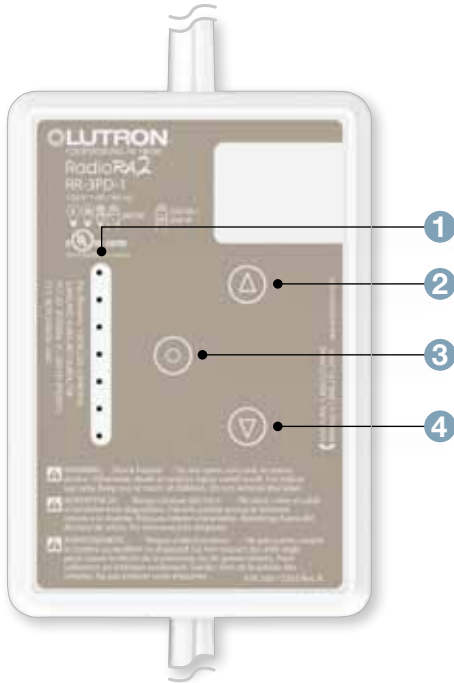
- Width: 2.25 in (58 mm)
- Height: 3.25 in (84 mm)
- Depth: 1.13 in (30 mm)
- Module can be hidden discretely behind furniture

### Communication and wiring

- Male plug on 24 in (610 mm) cord
- Female receptacle on 6 in (150 mm) cord
- Communicates via Lutron reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz
- Must be located within 30 ft (9 m) of a repeater

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[Download high resolution product image](#)

## Explanation of features

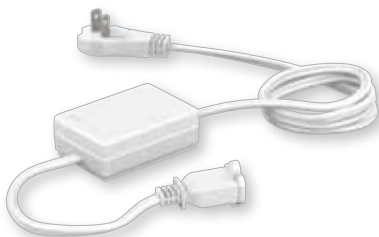


### Features

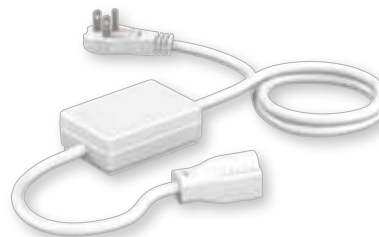
<b>1</b> Status LEDs	<ul style="list-style-type: none"> <li>Indicate light level; glow softly as night light when load is off</li> </ul>
<b>2</b> Raise button	<ul style="list-style-type: none"> <li>Press to brighten</li> </ul>
<b>3</b> Toggle button	<ul style="list-style-type: none"> <li>Press to toggle on/off; double-tap for full on; press and hold while on for delayed long fade to off</li> </ul>
<b>4</b> Lower button	<ul style="list-style-type: none"> <li>Press to dim</li> </ul>

Back of RadioRA 2 RF plug-in dimming module (full cord length not shown)

1.23 in (31 mm)



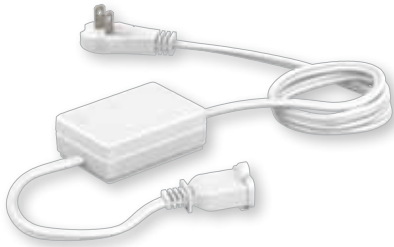
Dimming module  
(with 2-prong plug)



Appliance module  
(with 3-prong plug with ground)

## Available finishes

### Matte finishes



**SW**  
Snow



**MN**  
Midnight

## Model numbers

### RadioRA 2 RF plug-in dimming/switching and appliance modules (120V @ 50/60 Hz; 434 MHz)

#### Dimming module

300W/300VA

RR-3PD-1-**XX**<sup>1</sup>

Compatible with RadioRA 2 system.

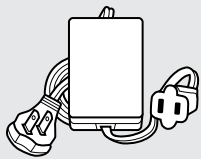
#### Appliance module

General purpose switching  
1/2 HP or 15A

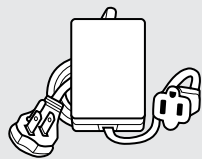
RR-15APS-1-**XX**<sup>1</sup>

Compatible with RadioRA 2 system.

## Available models

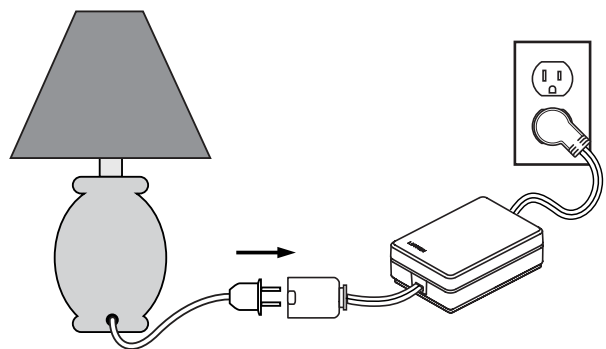


Dimming module (2-prong plug)



Appliance module (3-prong plug with ground)

## Installation



**XX**<sup>1</sup>: Available in Snow (SW) and Midnight (MN)

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.





Shown actual size: 6-button hybrid keypad in White (RRD-H6BRL-WH) and 1-gang Claro wallplate (sold separately) in White (CW-1-WH)

## Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Tu-Wire® fluorescent

## Features and capacities

- Hybrid keypads function as a dimmer and a keypad combined into a single device, to eliminate the need for extra wiring and construction
- Keypads incorporate advanced features such as fade on/fade off and pre-selected scenes
- Scenes can be fine-tuned by pressing and holding the raise/lower buttons to adjust lights or shades
- Backlit buttons
- Available with neutral wire terminal that allows keypads to be installed in either two-wire or neutral wire installations (neutral wire recommended)
- Coordinating Claro®, Satin Colors® and Stainless Steel wallplates only (available separately); not compatible with non-Lutron wallplates, see pg. 408
- For information on engraving, text symbols, or backlit buttons/backlit text, see pgs. 436-437
- A RadioRA 2 system can have up to 100 devices per main repeater, and up to two main repeaters per system (requires qualification of installer)
- Works with Sivoia® QS wireless shades via main repeater (pg. 268)
- Maximum load 450 W/450 VA two-wire or neutral wire, 120 V

## Dimensions and mounting

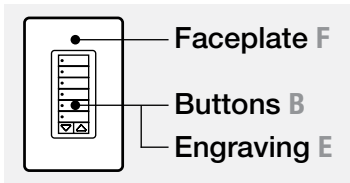
- Width: 2.94 in (75 mm)  
Height: 4.69 in (119 mm)  
Depth: 1.25 in (32 mm)  
Profile: .31 in (8 mm)
- Mounts into a 1-gang U.S. backbox, 3 in (89 mm) deep recommended, 2 in (57 mm) deep minimum

## Communication and wiring

- Communicates via Lutron® reliable Clear Connect® RF technology to other Lutron wireless devices, on a 434 MHz band
- Operates at 434 MHz
- Keypads must be located within 30 ft (9 m) of a main/auxiliary repeater

[Download specification submittal](#)  
[Download high resolution product image](#)  
[Download engraving sheet \(button kit\)](#)

## Available finishes



Use **BOLD** color code in model number (Example: RRD-H6BRL-**WH**)

### Gloss finishes\*



**WH**  
White F, B  
Gray E



**LA**  
Light Almond  
F, B  
Gray E



**AL**  
Almond F, B  
Gray E



**IV**  
Ivory F, B  
Gray E



**GR**  
Gray F, B  
White E



**BR**  
Brown F, B  
White E



**BL**  
Black F, B  
White E

### Satin finishes\*



**SW**  
Snow F, B  
Gray E



**LS**  
Limestone F  
Gray B  
White E



**BI**  
Biscuit F, B  
Gray E



**ES**  
Eggshell F, B  
Gray E



**PD**  
Palladium F  
Gray B



**TP**  
Taupe F, B  
Gray E



**ST**  
Stone F  
Gray B, E



**BG**  
Bluestone F  
Gray B  
White E



**PL**  
Plum F  
Taupe B  
White E



**TQ**  
Turquoise F  
Gray B  
White E



**GS**  
Goldstone F  
Ivory B  
Gray E



**DS**  
Desert Stone F  
Taupe B  
Gray E



**GB**  
Greenbriar F  
Gray B  
White E



**MS**  
Mocha Stone F  
Taupe B  
White E



**TC**  
Terracotta F  
Taupe B  
White E



**SI**  
Sienna F  
Brown B  
White E



**HT**  
Hot F  
Taupe B  
White E



**MR**  
Merlot F  
Taupe B  
White E



**MN**  
Midnight F, B  
White E

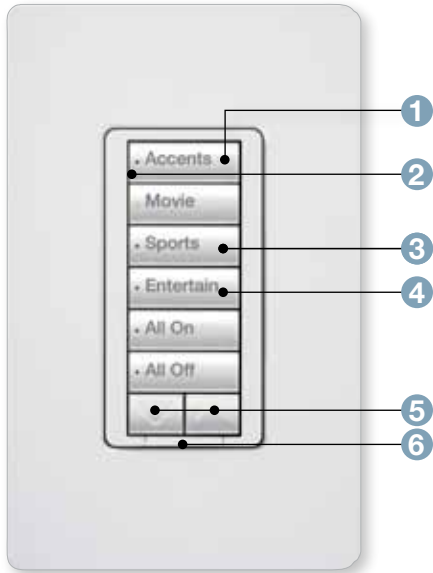


**SS\*\***  
Stainless Steel F  
Black B  
White E

\*Coordinating wallplates only available separately. For wallplate information, see pg. 408.

\*\*Stainless Steel wallplate includes black plastic trim/adaptor, visible from side. Match with separate Black (BL) or Midnight (MN) controls.

## Explanation of features



RadioRA 2 hybrid keypad

.31 in (8 mm)    1.25 in (32 mm)



### Features

<p><b>1</b> Dimmer</p>	<ul style="list-style-type: none"> <li>• Default location for toggle dimming of connected load. Can be changed with programming</li> </ul>
<p><b>2</b> Status LEDs</p>	<ul style="list-style-type: none"> <li>• Show status of lights or shades assigned to button</li> </ul>
<p><b>3</b> Keypad buttons</p>	<ul style="list-style-type: none"> <li>• Press to activate desired levels or positions of lights or shades</li> </ul>
<p><b>4</b> Backlit buttons</p>	<ul style="list-style-type: none"> <li>• Easy to find and read in low-light conditions</li> </ul>
<p><b>5</b> Raise/lower buttons</p>	<ul style="list-style-type: none"> <li>• Lights increase or decrease in intensity or shades/draperies move towards the open/close limit</li> </ul>
<p><b>6</b> FASS™</p>	<ul style="list-style-type: none"> <li>• Front Accessible Service Switch to disconnect power from the load for service</li> </ul>

## Model numbers

 **Incandescent/halogen or  
Magnetic low-voltage (MLV)**

3-button, 2-button with raise/lower dual group keypad and 120V/450W/450VA dimmer	RRD-H1RLD- <b>XX</b> <sup>1</sup>
2-button with raise/lower dual group keypad and 120V/450W/450VA dimmer	RRD-H2RLD- <b>XX</b> <sup>1</sup>
3-button with raise/lower keypad and 120V/450W/450VA dimmer	RRD-H3BSRL- <b>XX</b> <sup>1</sup>
4-button keypad and 120V/450W/450VA dimmer	RRD-H4S- <b>XX</b> <sup>1</sup>
5-button with raise/lower keypad and 120V/450W/450VA dimmer	RRD-H5BRL- <b>XX</b> <sup>1</sup>
6-button with raise/lower keypad and 120V/450W/450VA dimmer	RRD-H6BRL- <b>XX</b> <sup>1</sup>

Two-wire or neutral dimmer.  
Minimum load with neutral 15W/VA;  
without neutral 50W/VA.  
Compatible with RadioRA 2 systems.

## Engraved replacement kits

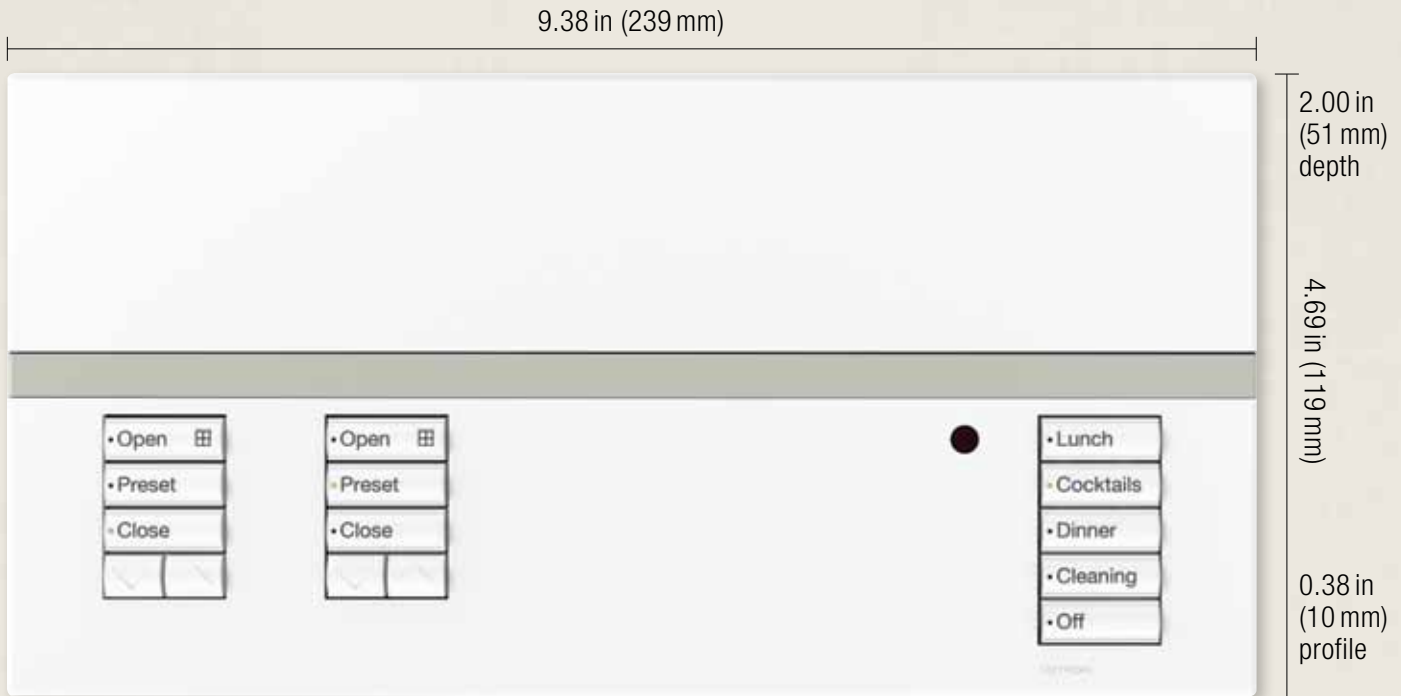
3-button, 2-button with raise/lower dual group keypad and 120V/450W/450VA dimmer	RKD-H1RLD- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>
2-button with raise/lower dual group keypad and 120V/450W/450VA dimmer	RKD-H2RLD- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>
3-button with raise/lower keypad and 120V/450W/450VA dimmer	RKD-H3BSRL- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>
4-button keypad and 120V/450W/450VA dimmer	RKD-H4S- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>
5-button with raise/lower keypad and 120V/450W/450VA dimmer	RKD-H5BRL- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>
6-button with raise/lower keypad and 120V/450W/450VA dimmer	RKD-H6BRL- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>

Compatible with RadioRA 2 hybrid keypads.

**XX**<sup>1</sup>: Gloss and Satin Colors® codes, see pg. 129 (Wallplates not included. Order separately, see pg. 408)

**E**<sup>1</sup>: Engraving codes, see pgs. 436-437

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.



Shown above: GRAFIK Eye QS main unit with 2 shade columns in White with Gray stripe. Models with 2-3 shade columns require base unit and faceplate kit to be ordered separately. Base unit (QSGRJ-3P) and faceplate kit (QSGFP-2-WH) shown above.

### Load summary

GRAFIK Eye QS	GRAFIK Eye QS with EcoSystem®	GRAFIK Eye QS for DALI
<p><b>Direct lighting loads</b></p> <ul style="list-style-type: none"> <li> Incandescent/halogen</li> <li> Magnetic low-voltage</li> <li> Tu-Wire® fluorescent</li> <li> LED (2-wire forward phase)</li> <li> Neon/cold cathode</li> <li> Non-dim lighting</li> <li> Cree® LR4/LR6 LED</li> </ul>	<p><b>Direct lighting loads</b></p> <ul style="list-style-type: none"> <li> Incandescent/halogen</li> <li> Magnetic low-voltage</li> <li> Tu-Wire® fluorescent</li> <li> Fluorescent/LED (EcoSystem)</li> <li> LED (2-wire forward phase)</li> <li> Neon/cold cathode</li> <li> Non-dim lighting</li> <li> Lutron electronic low-voltage transformer (240V only)</li> <li> Cree® LR4/LR6 LED</li> </ul>	<p><b>Direct lighting loads</b></p> <ul style="list-style-type: none"> <li> Fluorescent/LED (DALI)</li> </ul>

- [Download specification submittal for GRAFIK Eye QS main unit](#)
- [Download specification submittal for GRAFIK Eye QS main unit with EcoSystem/DALI](#)
- [Download high resolution product image](#)
- [Download engraving sheet \(button kit\)](#)
- [Download engraving sheet \(faceplate\)](#)

\*For 230V applications, Lutron ELV transformers may be used without an interface, see pg. 425.

## Features and capacities

- Models available for 100V, 120V, 230V (CE) and 220-240V @ 50/60Hz
- Connect wired occupancy sensors directly to the GRAFIK Eye QS main unit or to the QS sensor module
- GRAFIK Eye QS with EcoSystem® models provide direct connections to EcoSystem ballasts, drivers, and modules without the need for interfaces
- GRAFIK Eye QS with DALI models provide direct connections to DALI ballasts and drivers without the need for interfaces
- Large, rounded buttons are easy to use
- Backlit buttons or text make it easy to find and operate in low-light conditions
- High-end trim adjustment sets maximum light/energy level for each zone
- Built-in astronomic timeclock with after hours mode
- Preset light and shade control allows you to adjust the total light level for any task or activity
- Controls available with up to three columns of shade buttons; each column can operate one shade or a group of shades
- Shade operations can be linked to scenes
- For information on engraving, text symbols, or backlit buttons/backlit text, see pgs. 436-437

## Dimensions and mounting

- Width: 9.38in (239mm)  
Height: 4.69in (119mm)  
Depth: 2.00in (51mm)  
Profile: 0.38in (10mm)
- Mounts a 4-gang U.S. backbox, 3.5in (89mm) deep

## Communication and wiring

- GRAFIK Eye QS wireless main unit can communicate with up to 30 wireless devices via Lutron reliable Clear Connect® RF technology
- Wireless devices must be located within a 30ft range of the main unit; add a QS sensor module to extend RF range
- Wireless models available for operation at 434MHz, 434 limited channel MHz, 865MHz, 868MHz, or 868 limited channel MHz band
- Communicates to ballasts, modules and LED drivers on the EcoSystem digital link, and via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- QS system can have up to 100 devices and 100 zones; each GRAFIK Eye QS main unit and each assigned zone counts toward the limit
- As part of a RadioRA 2 System each zone on a GRAFIK Eye QS main unit counts as a device toward the 100 device limit per main repeater
- Supplies three power draw units on the QS link; models with KNX supply two power draw units

## Line-voltage load capacity

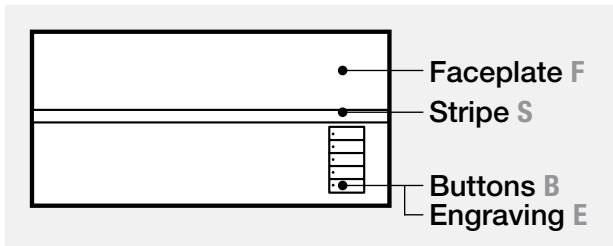
Total unit maximum capacity:

- 1600W/VA for 100V @ 50/60Hz
- 2000W/VA for 120–127V @ 50/60Hz
- 3000W/VA for 220–240V @ 50/60Hz
- Phase control CE models:
  - 3-zone 1500W/VA
  - 4-zone 2000W/VA
  - 6-zone 2300W/VA

Individual triac zone maximum capacity:

- 25–600W/VA for 100V @ 50/60Hz
- 25–800W/VA for 120–127V @ 50/60Hz
- 40–1200W/VA for 220–240V @ 50/60Hz
- CE models: 40–500W/VA for 230V @ 50Hz

## Available finishes



Use **BOLD** color code in model number (Example: QSGRJ-3P-**WH**)

### Architectural matte finishes\*



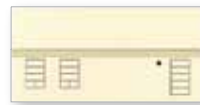
**WH**  
White **F, B**  
Gray **S, E**



**LA**  
Light Almond **F, B**  
Almond **S**  
Gray **E**



**AL**  
Almond **F, B**  
Light Almond **S**  
Gray **E**



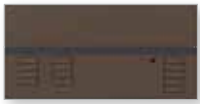
**BE**  
Beige **F, B**  
Ivory **S**  
Gray **E**



**IV**  
Ivory **F, B**  
Beige **S**  
Gray **E**



**GR**  
Gray **F, B**  
Black **S**  
White **E**



**BR**  
Brown **F, B**  
Black **S**  
White **E**



**BL**  
Black **F, B**  
Gray **S**  
White **E**

### Architectural metal finishes\*



**BN**  
Bright Nickel **F**  
Black **S, B**  
White **E**



**BC**  
Bright Chrome **F**  
Black **S, B**  
White **E**



**CLA**  
Clear Anodized  
Aluminum **F**  
Black **S, B**  
White **E**



**SC**  
Satin Chrome **F**  
Black **S, B**  
White **E**



**SN**  
Satin Nickel **F**  
Black **S, B**  
White **E**



**QZ**  
Antique Bronze **F**  
Black **S, B**  
White **E**



**BB**  
Bright Brass **F**  
Black **S, B**  
White **E**



**BRA**  
Brass Anodized  
Aluminum **F**  
Black **S, B**  
White **E**



**SB**  
Satin Brass **F**  
Black **S, B**  
White **E**



**QB**  
Antique Brass **F**  
Black **S, B**  
White **E**



**BLA**  
Black Anodized  
Aluminum **F**  
Black **S, B**  
White **E**

**Color code indicates faceplate color. Models include stripe and button kit in coordinating colors as shown.**

\* All finishes are available with translucent top. Specify "T" in model number before color code. For translucent top models, stripe color will complement the selected faceplate color. Example shown above, TWH.



**Satin finishes\***



**SW**  
Snow F, B  
Gray S, E



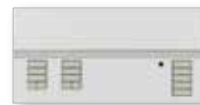
**LS**  
Limestone F  
Gray S, B, E



**BI**  
Biscuit F, B  
Eggshell S  
Gray E



**ES**  
Eggshell F, B  
Beige S  
Gray E



**PD**  
Palladium F  
Gray S, B, E



**TP**  
Taupe F, B  
Gray S, E



**ST**  
Stone F  
Gray S, B, E



**BG**  
Bluestone F  
Gray S, B  
White E



**PL**  
Plum F  
Taupe S, B  
White E



**SG**  
Sea Glass F  
Gray S, B, E



**TQ**  
Turquoise F  
Gray S, B  
White E



**GS**  
Goldstone F  
Ivory S, B  
Gray E



**DS**  
Desert Stone F  
Taupe S, B  
Gray E



**GB**  
Greenbriar F  
Gray S, B  
White E



**MS**  
Mocha Stone F  
Taupe S, B  
White E



**TC**  
Terracotta F  
Taupe S, B  
White E



**SI**  
Sienna F  
Brown S, B  
White E



**HT**  
Hot F  
Taupe S, B  
White E



**MR**  
Merlot F  
Taupe S, B  
White E



**MN**  
Midnight F  
Gray S  
Black B  
White E

**Examples of matte, metal and satin products with translucent top specified**



**TWH**  
White F, S, B  
Translucent top  
Gray E



**TBC**  
Bright Chrome F  
Translucent top  
Black S, B  
White E

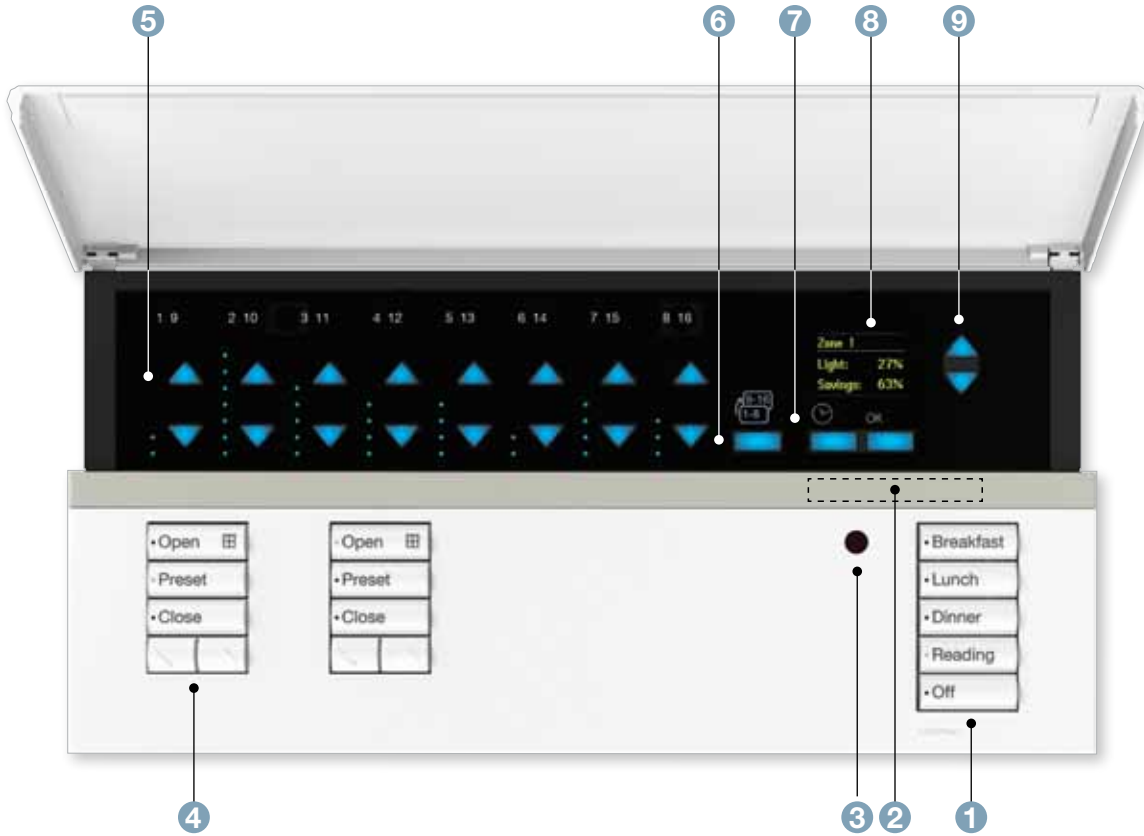


**TLS**  
Limestone F  
Translucent top  
Gray S, B, E

**Color code indicates faceplate color. Models include stripe and button kit in coordinating colors as shown.**

\*All finishes are available with translucent top. Specify "T" in model number before color code. For translucent top models, stripe color will complement the selected faceplate color. Example shown above, TWH.

Text engraving color varies by button color. Lighter colored buttons use gray text and darker colored buttons use white text. Visit [www.lutron.com/engraving](http://www.lutron.com/engraving) or see pg. 436-437 for additional information.



GRAFIK Eye QS with EcoSystem® main unit with top open

.38 in  
(10 mm) 1.98 in (51 mm)

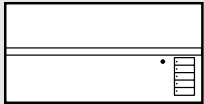


## Explanation of features

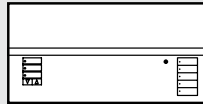
Features	QS stand-alone	RadioRA® 2
<b>1</b> Scene control buttons	<ul style="list-style-type: none"> <li>• 1-4 scenes and off</li> <li>• Buttons available with configurable fade times</li> <li>• Can be configured to control any lights wired to devices on the QS link</li> </ul>	<ul style="list-style-type: none"> <li>• Buttons can be programmed via software and act as RadioRA® 2 keypads</li> <li>• Can also be used for local scenes</li> </ul>
<b>2</b> RF transceiver	<ul style="list-style-type: none"> <li>• Communicates with Radio Powr Savr™ sensors, Pico® wireless controls, Sivoia® QS wireless shades and other wireless GRAFIK Eye QS main units (30 ft range)</li> </ul>	<ul style="list-style-type: none"> <li>• Communicates via RadioRA 2 repeater with other system devices including sensors and keypads</li> </ul>
<b>3</b> Infrared (IR) receiver	<ul style="list-style-type: none"> <li>• Allows IR connectivity to handheld IR remotes (50 ft range line-of-sight); IR receiver located on the front of the main unit</li> </ul>	
<b>4</b> Shade control buttons	<ul style="list-style-type: none"> <li>• Each shade control has open, preset, close, raise/lower for one shade or a group of shades</li> <li>• Models available with 0, 1, 2, or 3 shade columns</li> <li>• Can also be used for local scenes (RadioRA 2 only)</li> </ul>	
<b>5</b> Backlit zone buttons	<ul style="list-style-type: none"> <li>• Non-EcoSystem® models available with 3, 4, or 6 line voltage zones</li> </ul>	
	<ul style="list-style-type: none"> <li>• EcoSystem/DALI models available with 6, 8, or 16 zones</li> <li>• EcoSystem models also have three line voltage zones</li> </ul>	<ul style="list-style-type: none"> <li>• Zone buttons can only control lights wired to the main unit</li> <li>• Zones can be programmed to function as RadioRA 2 dimmer and assigned to any scene or keypad button</li> </ul>
<b>6</b> Page button	<ul style="list-style-type: none"> <li>• In GRAFIK Eye QS with EcoSystem/DALI, button toggles between zones 1–8 and 9–16</li> </ul>	<ul style="list-style-type: none"> <li>• EcoSystem models not available for use with RadioRA 2</li> </ul>
<b>7</b> Astronomic timeclock	<ul style="list-style-type: none"> <li>• Add up to 25 events per day/entire week</li> <li>• Scheduling to meet energy codes</li> <li>• After-hours capability</li> </ul>	<ul style="list-style-type: none"> <li>• Timeclock disabled in RadioRA 2 system; use system timeclock in main repeater</li> </ul>
<b>8</b> Information display/user interface	<ul style="list-style-type: none"> <li>• Energy savings (as % of energy used)</li> <li>• Lighting levels</li> <li>• Timeclock information</li> <li>• Programming information</li> </ul>	
<b>9</b> Master override backlit buttons	<ul style="list-style-type: none"> <li>• Temporarily raise/lower light levels of an entire scene</li> </ul>	

## Available models

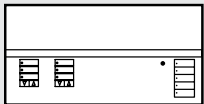
- Non-EcoSystem®/DALI models are available with 3, 4, or 6 lighting zones
- EcoSystem and DALI models are available with 6, 8, or 16 lighting zones
- All models are available with 0, 1, 2, or 3 shade columns



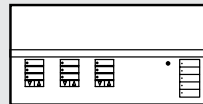
0 shade columns



1 shade column



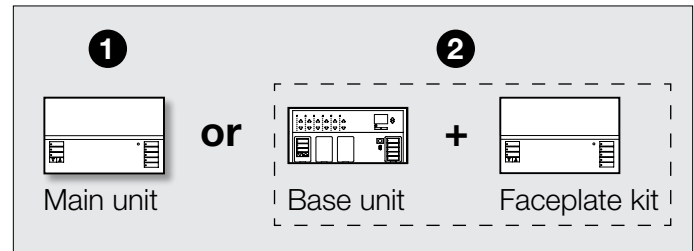
2 shade columns



3 shade columns

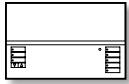
## How to select a model number

GRAFIK Eye QS main units can be ordered in two ways:



- 1 Main unit:** Order a main unit when the installation requires 0 or 1 shade group and unit finish desired is White.
- 2 Base unit and faceplate kit:** Order a base unit and a faceplate kit individually when the installation requires 2 or 3 shade zones, or if a finish other than White is preferred.

## Model numbers for 120–127V, 220-240V devices



### GRAFIK Eye QS wireless main unit 120–127V, 220-240V @ 50/60 Hz (434 MHz)

#### 3 lighting zones

Matte white, 0 shade zones	QSGRJ-3P-WH
Matte white, translucent top, 0 shade zones	QSGRJ-3P-TWH
Matte white, 1 shade zone	QSGRJ-3P-1WH
Matte white, translucent top, 1 shade zone	QSGRJ-3P-1TWH

#### 4 lighting zones

Matte white, 0 shade zones	QSGRJ-4P-WH
Matte white, translucent top, 0 shade zones	QSGRJ-4P-TWH
Matte white, 1 shade zone	QSGRJ-4P-1WH
Matte white, translucent top, 1 shade zone	QSGRJ-4P-1TWH

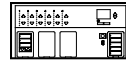
#### 6 lighting zones

Matte white, 0 shade zones	QSGRJ-6P-WH
Matte white, translucent top, 0 shade zones	QSGRJ-6P-TWH
Matte white, 1 shade zone	QSGRJ-6P-1WH
Matte white, translucent top, 1 shade zone	QSGRJ-6P-1TWH

TWH models include translucent top; stripe color will complement base unit.

120V units are standard phase control, 800W/channel, 2000W total (220–240V units are 1200W/channel, 3000W total).

Compatible with GRAFIK Eye QS, Energi Savr Node™ and RadioRA® 2 systems.



### GRAFIK Eye QS base unit 120–127V, 220-240V @ 50/60 Hz (wireless models operate at 434 MHz)

#### 3 lighting zones

Wireless	QSGRJ-3P
Wireless (Brazil)	QSGRJ-3PBA
Wired	QSGR-3P

#### 4 lighting zones

Wireless	QSGRJ-4P
Wireless (Brazil)	QSGRJ-4PBA
Wired only	QSGR-4P

#### 6 lighting zones

Wireless	QSGRJ-6P
Wireless (Brazil)	QSGRJ-6PBA
Wired only	QSGR-6P

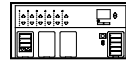
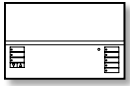
Base units require a faceplate kit for operation.

120V units are standard phase control, 800W/channel, 2000W total (220–240V units are 1200W/channel, 3000W total).

Compatible with GRAFIK Eye QS, Energi Savr Node and RadioRA 2 systems.

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.

Model numbers  
for 120–127V, 220-240V devices (continued)



**GRAFIK Eye QS wireless main unit with EcoSystem®**

120–127V and 220–240V @ 50/60 Hz (434 MHz)

**6 lighting zones**

Matte white, 0 shade zones	QSGRJ-6E-WH
Matte white, translucent top, 0 shade zones	QSGRJ-6E-TWH
Matte white, 1 shade zone	QSGRJ-6E-1WH
Matte white, translucent top, 1 shade zone	QSGRJ-6E-1TWH

**8 lighting zones**

Matte white, 0 shade zones	QSGRJ-8E-WH
Matte white, translucent top, 0 shade zones	QSGRJ-8E-TWH
Matte white, 1 shade zone	QSGRJ-8E-1WH
Matte white, translucent top, 1 shade zone	QSGRJ-8E-1TWH

**16 lighting zones**

Matte white, 0 shade zones	QSGRJ-16E-WH
Matte white, translucent top, 0 shade zones	QSGRJ-16E-TWH
Matte white, 1 shade zone	QSGRJ-16E-1WH
Matte white, translucent top, 1 shade zone	QSGRJ-16E-1TWH

TWH models include translucent top; stripe color will complement base unit.

120V units are standard phase control, 800W/channel, 2000W total (220–240V units are 1200W/channel, 3000W total).

Compatible with GRAFIK Eye QS and Energi Savr Node™ systems.

**GRAFIK Eye QS with EcoSystem base unit**

120-127V and 220-240 V @ 50/60 Hz (wireless models operate at 434 MHz or 434 limited channel MHz)

**6 lighting zones**

Wireless - 434 MHz	QSGRJ-6E
Wireless - 434 limited channel MHz	QSGRQ-6E
Wired	QSGR-6E

**8 lighting zones**

Wireless - 434 MHz	QSGRJ-8E
Wireless - 434 limited channel MHz	QSGRQ-8E
Wired	QSGR-8E

**16 lighting zones**

Wireless - 434 MHz	QSGRJ-16E
Wireless - 434 limited channel MHz	QSGRQ-16E
Wired	QSGR-16E

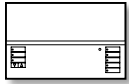
Base units require a faceplate kit for operation.

120 V units are standard phase control, 800 W/channel, 2000 W total (220-24V units are 1200 W/channel, 3000 W total).

Compatible with GRAFIK Eye QS and Energi Savr Node systems.

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.

## Model numbers for 230V devices



### GRAFIK Eye QS wireless main unit 230V(CE) (868 MHz)

#### 3 lighting zones

Matte white, 0 shade zones	QSGRK-3PCE-WH
Matte white, translucent top, 0 shade zones	QSGRK-3PCE-TWH
Matte white, 1 shade zone	QSGRK-3PCE-1WH
Matte white, translucent top, 1 shade zone	QSGRK-3PCE-1TWH

#### 4 lighting zones

Matte white, 0 shade zones	QSGRK-4PCE-WH
Matte white, translucent top, 0 shade zones	QSGRK-4PCE-TWH
Matte white, 1 shade zone	QSGRK-4PCE-1WH
Matte white, translucent top, 1 shade zone	QSGRK-4PCE-1TWH

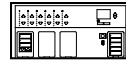
#### 6 lighting zones

Matte white, 0 shade zones	QSGRK-6PCE-WH
Matte white, translucent top, 0 shade zones	QSGRK-6PCE-TWH
Matte white, 1 shade zone	QSGRK-6PCE-1WH
Matte white, translucent top, 1 shade zone	QSGRK-6PCE-1TWH

TWH models include translucent top; stripe color will complement base unit.

Standard phase control 500 W/channel, 1500-2300 W total based on number of zones.

Compatible with GRAFIK Eye QS and Energi Savr Node™ systems.



### GRAFIK Eye QS base unit 230V @ 50 Hz

(wireless models operate at 434 limited channel MHz, 865MHz, 868MHz, or 868 limited channel MHz)

#### 3 lighting zones

Wireless (CE) - 868 MHz	QSGRK-3PCE
Wireless (CE) - 868 limited channel MHz	QSGRM-3PCE
Wired (CE)	QSGR-3PCE

#### 4 lighting zones

Wireless (CE) - 868 MHz	QSGRK-4PCE
Wireless (CE) - 868 limited channel MHz	QSGRM-4PCE
Wired (CE)	QSGR-4PCE

#### 6 lighting zones

Wireless (CE) - 865 MHz	QSGRN-6PCE
Wireless (CE) - 868 MHz	QSGRK-6PCE
Wireless (CE) - 868 limited channel MHz	QSGRM-6PCE
Wireless (CE) - 434 limited channel MHz	QSGRQ-6PCE
Wired (CE)	QSGR-6PCE

Base units require a faceplate kit for operation.

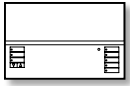
Standard phase control 500 W/channel, 1500-2300 W total based on number of zones.

Compatible with GRAFIK Eye QS and Energi Savr Node systems.

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.



## Model numbers for 230V devices



### GRAFIK Eye QS wireless main unit with DALI 230V(CE) @ 50/60Hz (868 MHz)

#### 6 lighting zones

Matte white, 0 shade zones	QSGRK-6D-WH
Matte white, translucent top, 0 shade zones	QSGRK-6D-TWH
Matte white, 1 shade zone	QSGRK-6D-1WH
Matte white, translucent top, 1 shade zone	QSGRK-6D-1TWH

#### 8 lighting zones

Matte white, 0 shade zones	QSGRK-8D-WH
Matte white, translucent top, 0 shade zones	QSGRK-8D-TWH
Matte white, 1 shade zone	QSGRK-8D-1WH
Matte white, translucent top 1 shade zone	QSGRK-8D-1TWH

#### 16 lighting zones

Matte white, 0 shade zones	QSGRK-16D-WH
Matte white, translucent top 0 shade zones	QSGRK-16D-TWH
Matte white, 1 shade zone	QSGRK-16D-1WH
Matte white, translucent top 1 shade zone	QSGRK-16D-1TWH

TWH models include translucent top; stripe color will complement base unit.

Compatible with GRAFIK Eye QS and Energi Savr Node™ systems.



### GRAFIK Eye QS with DALI base unit

230V(CE) @ 50/60Hz

(wireless models operate at 868 MHz and 868 limited channel MHz)

#### 6 lighting zones

Wireless (CE) - 868 limited channel MHz	QSGRM-6D
Wireless (CE) - 868 MHz KNX communication	QSGRK-6D-KNX
Wireless (CE) - 868 MHz	QSGRK-6D
Wired (CE)	QSGR-6D

#### 8 lighting zones

Wireless (CE) - 868 limited channel MHz	QSGRM-8D
Wireless (CE) - 868 MHz KNX communication	QSGRK-8D-KNX
Wireless (CE) - 868 MHz	QSGRK-8D
Wired (CE)	QSGR-8D

#### 16 lighting zones

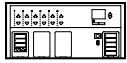
Wireless (CE) - 868 limited channel MHz	QSGRM-16D
Wireless (CE) - 868 MHz KNX communication	QSGRK-16D-KNX
Wireless (CE) - 868 MHz	QSGRK-16D
Wired (CE)	QSGR-16D

Base units require a faceplate kit for operation.

Compatible with GRAFIK Eye QS and Energi Savr Node systems.

For specific radio frequency by country, refer to the radio frequency chart on pg. 465.  
For specific voltage by country information refer to the voltage chart on pg. 462.

## Model numbers for 100V devices



### GRAFIK Eye QS base unit 100V @ 50/60Hz

#### 3 lighting zones

Wired	QSGR-3PJA
-------	-----------

#### 4 lighting zones

Wired	QSGR-4PJA
-------	-----------

#### 6 lighting zones

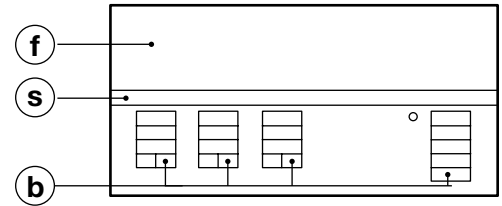
Wired	QSGR-6PJA
-------	-----------

Base units require a faceplate kit for operation.

Standard phase control 600 W/channel, 1600W total based on number of zones.

Compatible with GRAFIK Eye QS.

## Faceplate and button kit model numbers



seeTouch® QS

GRAFIK Eye QS

**f** faceplate color option

**s** stripe color option

**b** button color option

### Faceplate kit

#### 0 shade zones

Faceplate kit	QSGFP- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
---------------	---

Faceplate kit, translucent top	QSGFP-T- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
--------------------------------	---

#### 1 shade zone

Faceplate kit	QSGFP-1- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
---------------	---

Faceplate kit, translucent top	QSGFP-1T- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
--------------------------------	--

#### 2 shade zones

Faceplate kit	QSGFP-2- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
---------------	---

Faceplate kit, translucent top	QSGFP-2T- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
--------------------------------	--

#### 3 shade zones

Faceplate kit	QSGFP-3- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
---------------	---

Faceplate kit, translucent top	QSGFP-3T- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
--------------------------------	--

Faceplate kit includes coordinating stripe insert and buttons; base unit required for operation.

Compatible with all GRAFIK Eye QS models.

### Stripe and button kits

#### Stripe kits

Stripe kit	QSGS- <b>XX</b> <sup>1</sup>
------------	------------------------------

#### 3-button

3-button with raise/lower replacement kit (shade buttons)	QSGB-3BRL- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>
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#### 5-button

5-button replacement kit (scene buttons)	QSGB-5B- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>
--	---

Compatible with all GRAFIK Eye QS models.

**XX**<sup>1</sup>: Architectural matte, metal and Satin Colors® codes, see pgs. 134-135

**XX**<sup>2</sup>: Architectural matte color codes, see pg. 134

**EEE**<sup>1</sup>: Engraving codes, see pg. 436

For specific voltage by country information refer to voltage chart on pg. 462.



Shown above: Energi Savr Node with EcoSystem (QSN-2ECO-S)

### Direct lighting loads

☑/🌀 Fluorescent/LED (EcoSystem)

<p><a href="#">Download specification submittal</a></p> <p><a href="#">Download high resolution product image</a></p>
<p><sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.</p>
<p><sup>2</sup>Limitations apply when multiple Energi Savr Node devices are linked together.</p>

### Features and capacities

- Provides control of up to 64 or 128 EcoSystem ballasts, modules and/or LED drivers (depending on the models; 64 per link)
- Powers one or two EcoSystem digital links
- Combines fine tuning, daylight harvesting, occupancy/vacancy sensing, personal control and contact closure integration in one panel
- Directly connect to and provide power for wired sensors and controls
- Expand the system by linking nodes together and sharing sensors and controls via the QS link
- Connect to Radio Powr Savr™ wireless sensors and Pico® wireless controls via the QS sensor module
- Easy system programming with intuitive application for iPod touch®, iPad® or iPhone®<sup>1</sup>

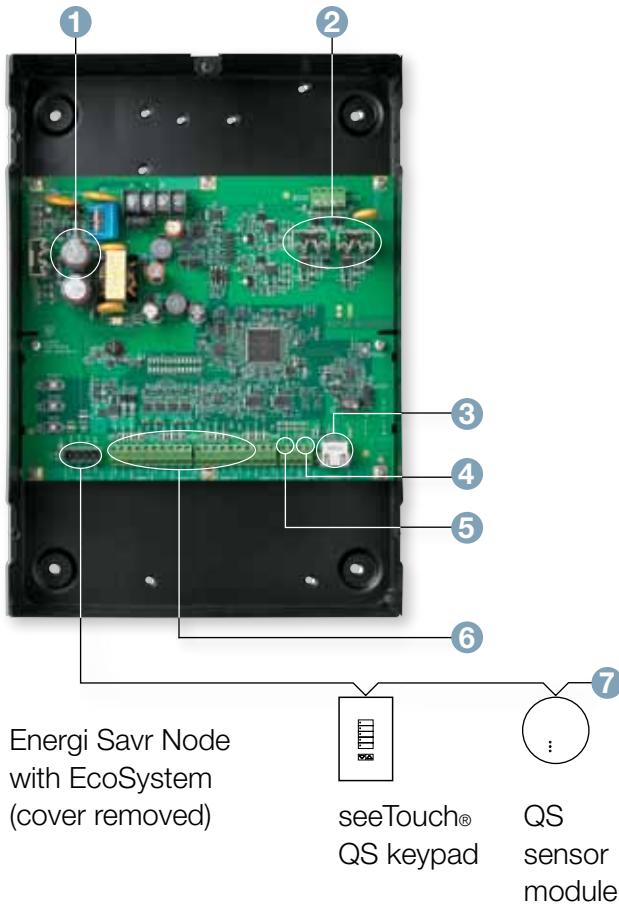
### Dimensions and mounting

- Width: 9.25 in (235 mm)
- Height: 13.25 in (337 mm)
- Depth: 3.16 in (80 mm)
- Surface-mount
- Approved for installation in spaces designed for air handling per NEC article 300.22(c)

### Communication and wiring

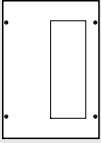
- Communicates to ballasts, modules, and LED drivers via EcoSystem digital link, and via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- Requires QS sensor module for wireless communication
- QS system can have up to 100 devices and 100 zones; each Energi Savr Node unit and each assigned zone counts toward the limit
- Supplies 30 power draw units on the QS link<sup>2</sup>

### Explanation of features



Features	
<b>1</b> Control power	<ul style="list-style-type: none"> <li>• 120–277V</li> </ul>
<b>2</b> EcoSystem digital links	<ul style="list-style-type: none"> <li>• Up to 64 EcoSystem ballasts, modules or drivers per link</li> <li>• Models available with one or two links</li> </ul>
<b>3</b> Programming port	<ul style="list-style-type: none"> <li>• Ethernet connection for wireless router for system programming</li> </ul>
<b>4</b> Emergency contact closure input	<ul style="list-style-type: none"> <li>• Force all lights to 100% (by default)</li> </ul>
<b>5</b> Programmable contact closure input	<ul style="list-style-type: none"> <li>• To select scene, enable afterhours, or enable a demand response</li> </ul>
<b>6</b> Wired daylight sensors	<ul style="list-style-type: none"> <li>• Up to 4 wired sensors</li> </ul>
Wired occupancy sensors	<ul style="list-style-type: none"> <li>• Up to 4 wired sensors</li> </ul>
Wired EcoSystem and Pico® wallstations or infrared (IR) receivers	<ul style="list-style-type: none"> <li>• Up to 4 inputs</li> </ul>
<b>7</b> QS link	<ul style="list-style-type: none"> <li>• Link to additional wired controls, sensors, and interfaces</li> <li>• Connect to Radio Powr Savr wireless sensors and Pico wireless controls via QS sensor module</li> </ul>

## Available models



Energi Savr Node  
with EcoSystem

## Model numbers

### **Energi Savr Node with EcoSystem**

120V, 240V and 277V models @ 50/60 Hz

---

EcoSystem with 1 digital link	QSN-1ECO-S
-------------------------------	------------

EcoSystem with 2 digital links	QSN-2ECO-S
--------------------------------	------------

---

Compatible with Energi Savr Node system.

For specific voltage by country information  
refer to voltage chart on pg. 462.



Shown above: Energi Savr Node for 0-10V (QSN-4T16-S)

**Direct lighting loads**

- ☑/⦿ Fluorescent/ LED (0–10V)
- 💡 Non-dim lighting
- 💡 HID
- ⚙️ Motor loads
- ✂️ Fan loads
- 🔌 15A receptacles

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[Download high resolution product image](#)

<sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

<sup>2</sup>Limitations apply when multiple Energi Savr Node devices are linked together.

**Features and capacities**

- Controls up to four 16A circuits of lighting loads (switched relay or 0–10V dimming)
- Provides easy integration of occupancy sensors, daylight sensors, and digital light controls
- Expand the system by linking nodes together and sharing sensors and controls via the QS link
- Connect to Radio Powr Savr™ wireless sensors and Pico® wireless controls via QS sensor module
- Easy system programming with manual button-press programming or intuitive application for iPod touch®, iPad® or iPhone®<sup>1</sup> (wireless router and Energi Savr Node programming interface required)
- Directly connect to and provide power for wired sensors and controls
- Softswitch relay is rated for 16A continuous use, which is the maximum continuous load for a 20A overcurrent protection device

**Dimensions and mounting**

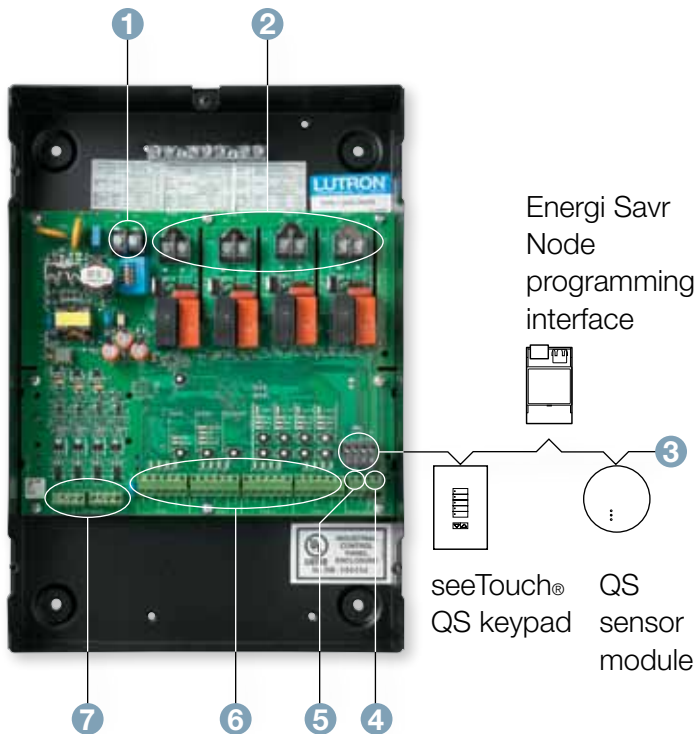
- Width: 9.25 in (235 mm)
- Height: 13.25 in (337 mm)
- Depth: 3.16 in (80 mm)
- Surface mount
- Approved for installation in spaces designed for air handling per NEC article 300.22(c)

**Communication and wiring**

- Communicates via low-voltage IEC PELV/ NEC Class 2 to QS components via the QS link
- Requires QS sensor module for wireless communication
- QS system can have up to 100 devices and 100 zones; each Energi Savr Node unit and each assigned zone count toward the limit
- Supplies 14 power draw units on the QS link<sup>2</sup>



Explanation of features



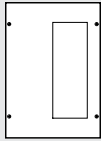
Energi Savr Node for 0-10V  
(cover removed)

**Features**

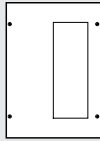
<b>1</b> Control power	<ul style="list-style-type: none"> <li>• 120–277V</li> </ul>
<b>2</b> Switched load outputs	<ul style="list-style-type: none"> <li>• 4 feed-through Softswitch relays</li> <li>• 120–277V, 347V</li> </ul>
<b>3</b> QS link	<ul style="list-style-type: none"> <li>• Link to additional wired controls, sensors, and interfaces</li> <li>• Connect to Radio Power Savr™ wireless sensors and Pico® wireless controls via QS sensor module</li> </ul>
<b>4</b> Emergency contact closure input	<ul style="list-style-type: none"> <li>• Force all lights to 100% (by default)</li> </ul>
<b>5</b> Programmable contact closure input	<ul style="list-style-type: none"> <li>• To select scene, enable after-hours, or enable a demand response</li> </ul>
<b>6</b> Wired daylight sensors	<ul style="list-style-type: none"> <li>• Up to 4 wired sensors</li> </ul>
Wired occupancy sensors	<ul style="list-style-type: none"> <li>• Up to 4 wired sensors</li> </ul>
Wired EcoSystem® and Pico wallstations or IR receivers	<ul style="list-style-type: none"> <li>• Up to 4 inputs</li> </ul>
Wired IEC PELV/ NEC Class 2 dry contact switches	<ul style="list-style-type: none"> <li>• Up to 4 dry contact closure inputs</li> </ul>
<b>7</b> 0-10V channels	<ul style="list-style-type: none"> <li>• 4 dimming zones (0-10V only)</li> </ul>



Available models



Energi Savr Node  
for 0-10V



Energi Savr Node  
with Softswitch

Model numbers

**Energi Savr Node for 0-10V**

120V, 220-240V and 277V models @ 50/60 Hz

0-10V control (120-277 V) QSN-4T16-S

0-10V control (120-277V, 347V) QSN-4T16-S-347

Compatible with Energi Savr Node system.

**Energi Savr Node with Softswitch**

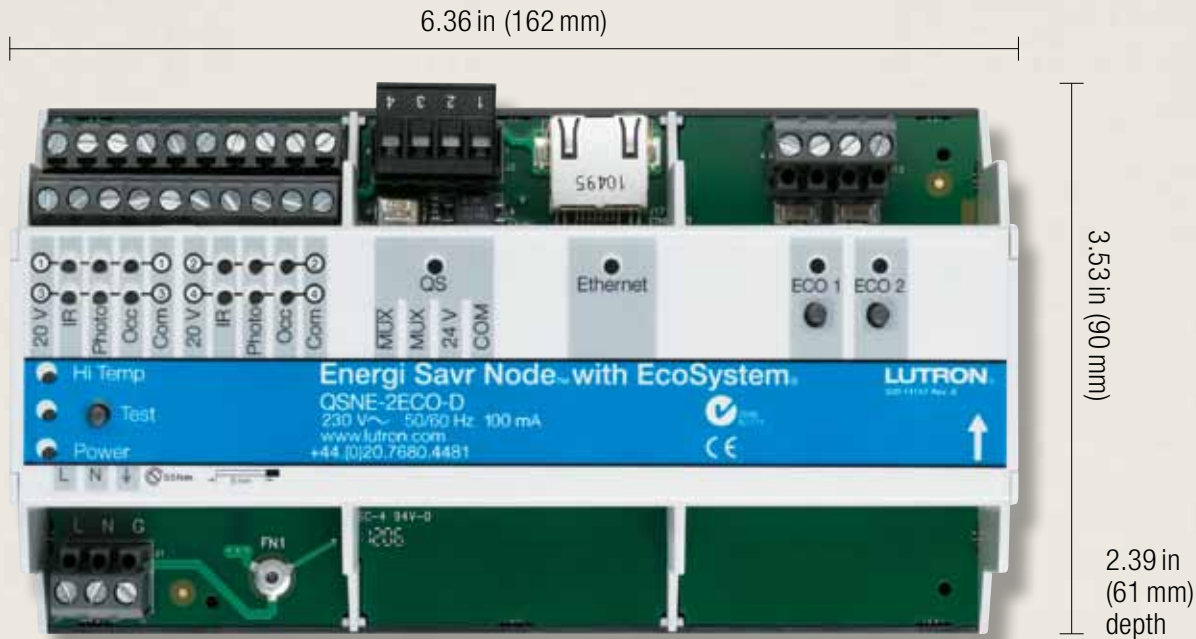
120V, 220-240V and 277V models @ 50/60 Hz

Softswitch (120-277V) QSN-4S16-S

Softswitch (120-277V, 347V) QSN-4S16-S-347

Compatible with Energi Savr Node system.

For specific voltage by country information  
refer to voltage chart on pg. 462.



Shown above: Energi Savr Node with EcoSystem (DIN-rail) (QSNE-2ECO-D)

### Direct lighting loads

Fluorescent/LED (EcoSystem)

### Features and capacities

- Provides control of up to 128 EcoSystem ballasts, modules, and/or drivers
- Powers two EcoSystem digital links
- Combines fine tuning, daylight harvesting, occupancy/vacancy sensing, personal control, and contact closure integration in one control
- Expand the system by linking nodes together and sharing sensors and controls via the QS link
- Directly connect to and provide power for wired sensors and controls
- Connect to wireless sensors and controls via QS sensor module
- Easy system programming with intuitive application for iPod touch®, iPad® or iPhone®<sup>1</sup>

### Dimensions and mounting

- Width: 6.36 in (162 mm)
- Height: 3.53 in (90 mm)
- Depth: 2.39 in (61 mm)
- Mounts to standard DIN-rail (width = 9.5 mm)
- 9 DIN-wide device

### Communication and wiring

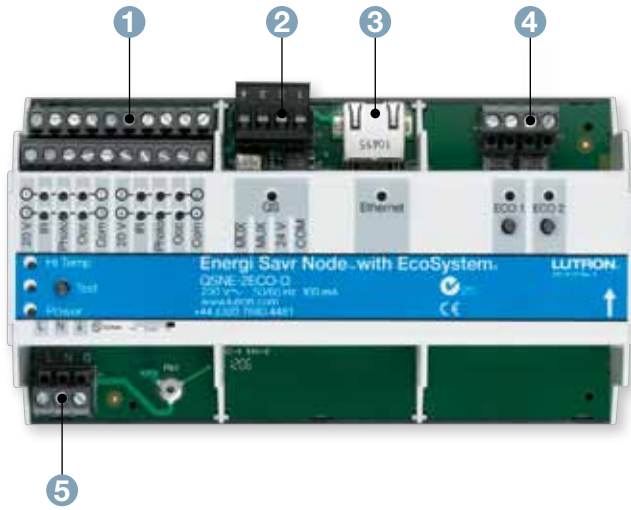
- Communicates to ballasts, modules, and drivers via EcoSystem digital link, and via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- Requires QS sensor module for wireless communication
- QS system can have up to 100 devices and 100 zones; each Energi Savr Node unit and each assigned zone counts toward the limit
- Supplies three power draw units on the QS link<sup>2</sup>

<sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

<sup>2</sup>Limitations apply when multiple Energi Savr Node devices are linked together.

[Download specification submittal](#)

### Explanation of features

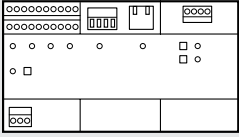


Energi Savr Node with EcoSystem (DIN-rail)

#### Features

<p><b>1</b> Wired daylight sensors</p>	<ul style="list-style-type: none"> <li>• Up to 4 wired sensors</li> </ul>
<p>Wired occupancy sensors</p>	<ul style="list-style-type: none"> <li>• Up to 4 wired sensors</li> </ul>
<p>Wired EcoSystem wallstations, IR receivers, or IEC PELV contact switches</p>	<ul style="list-style-type: none"> <li>• Up to 4 inputs</li> </ul>
<p><b>2</b> QS link</p>	<ul style="list-style-type: none"> <li>• Link to additional wired controls, sensors, and interfaces</li> <li>• Connect to Radio Powr Savr™ wireless sensors and Pico® wireless controls via QS sensor module</li> </ul>
<p><b>3</b> Programming port</p>	<ul style="list-style-type: none"> <li>• Ethernet connection for wireless router for system programming</li> </ul>
<p><b>4</b> EcoSystem digital links</p>	<ul style="list-style-type: none"> <li>• Up to 64 EcoSystem ballasts, modules, and drivers per link</li> <li>• Available with two links</li> </ul>
<p><b>5</b> Mains wiring</p>	<ul style="list-style-type: none"> <li>• Wiring from distribution panel to module</li> </ul>

## Available models



Energi Savr Node with EcoSystem (DIN-rail)

## Model numbers

**Energi Savr Node with EcoSystem** (DIN-rail)  
230 V(CE), 220–240 V

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EcoSystem	QSNE-2ECO-D
-----------	-------------

---

Compatible with Energi Savr Node system.

For specific voltage by country information refer to voltage chart on pg. 461.



Shown above: Energi Savr Node for DALI (DIN-rail) (QSNE-2DAL-D)

### Direct lighting loads

Fluorescent/LED (DALI)

### Features and capacities

- Provides power for either one or two loops of DALI compliant digitally addressable loads (up to 64 ballasts/LED drivers per loop)
- Each DALI loop can control a maximum of 16 zones
- Expand the system by linking nodes together and sharing sensors via the QS link
- Default configuration requires no commissioning
- Easy system programming with intuitive application for iPod touch®, iPad® or iPhone®<sup>1</sup>
- Directly connect to and provide power for wired sensors and controls
- QS system can have up to 100 devices and 100 zones; each Energi Savr Node QS unit and each assigned zone counts toward the limit

### Dimensions and mounting

- Width: 6.36 in (162 mm)
- Height: 3.53 in (90 mm)
- Depth: 2.39 in (61 mm)
- Mounts to standard DIN-rail (width = 9.5 mm)
- 9 DIN-wide device

### Communication and wiring

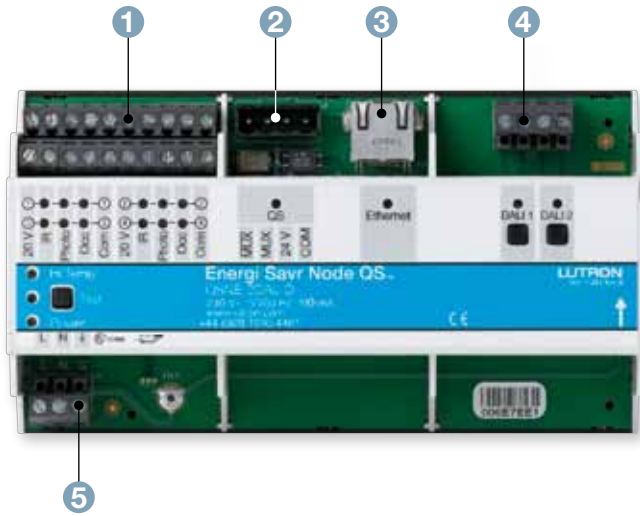
- Communicates via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- Requires QS sensor module for wireless communication
- QS system can have up to 100 devices and 100 zones; each Energi Savr Node QS unit and each assigned zone counts toward the limit
- Supplies three power draw units on the QS link<sup>2</sup>

<sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

<sup>2</sup>Limitations apply when multiple Energi Savr Node devices are linked together.

[Download specification submittal](#)

## Explanation of features

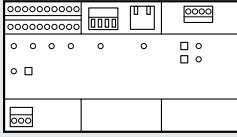


Energi Savr Node for DALI (DIN-rail)

### Features

<p><b>1</b> Wired daylight sensors</p>	<ul style="list-style-type: none"> <li>Up to 4 wired sensors</li> </ul>
<p>Wired occupancy sensors</p>	<ul style="list-style-type: none"> <li>Up to 4 wired sensors</li> </ul>
<p>Wired or IR receivers</p>	<ul style="list-style-type: none"> <li>Up to 4 inputs</li> </ul>
<p><b>2</b> QS link</p>	<ul style="list-style-type: none"> <li>Link to additional controls, sensors, and interfaces on the QS link</li> <li>Connect to Radio Powr Savr™ sensors and Pico® wireless controls via QS sensor module on the QS link</li> </ul>
<p><b>3</b> Programming port</p>	<ul style="list-style-type: none"> <li>Ethernet connection for wireless router for system programming</li> </ul>
<p><b>4</b> DALI bus</p>	<ul style="list-style-type: none"> <li>Connect to DALI loop</li> </ul>
<p><b>5</b> Mains wiring</p>	<ul style="list-style-type: none"> <li>Wiring from distribution panel to module</li> </ul>

## Available models



Energi Savr Node for DALI (DIN-rail)

## Model numbers

### **Energi Savr Node for DALI** (DIN-rail)

230 V(CE), 220–240 V

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DALI

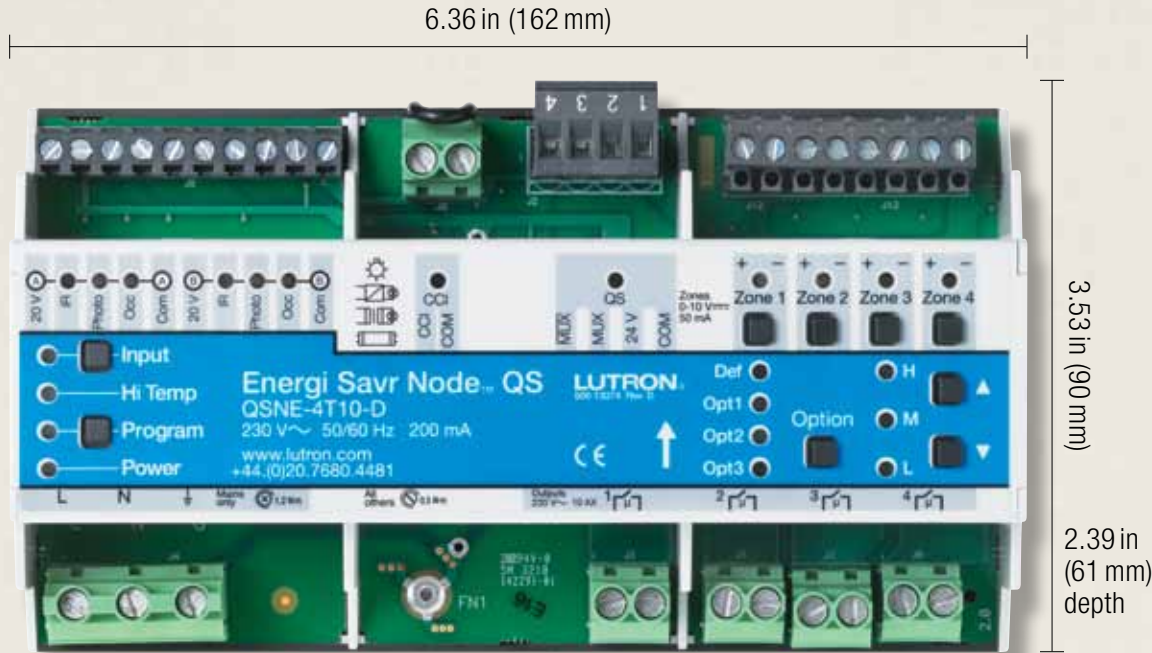
QSNE-2DAL-D

---

Compatible with Energi Savr Node system.

For specific voltage by country information refer to voltage chart on pg. 462.





Shown above: Energi Savr Node for 0-10V (QSNE-4T10-D)

### Direct lighting loads

- Fluorescent/ LED (0–10V)
- Non-dim lighting
- HID

### Features and capacities

- Controls up to four 16A circuits of lighting loads (switched relay or 0–10V dimming)
- Easy system programming with manual button-press programming or intuitive application iPod touch®, iPad® or iPhone®<sup>1</sup> (wireless router and Energi Savr Node programming interface required)
- Directly connect to and provide power for wired sensors and controls
- Expand the system by linking nodes together and sharing sensors and controls via the QS link

### Dimensions and mounting

- Width: 6.36 in (162 mm)
- Height: 3.53 in (90 mm)
- Depth: 2.39 in (61 mm)
- Mounts to standard DIN-rail (width = 9.5 mm)
- 9 DIN-wide device

### Communication and wiring

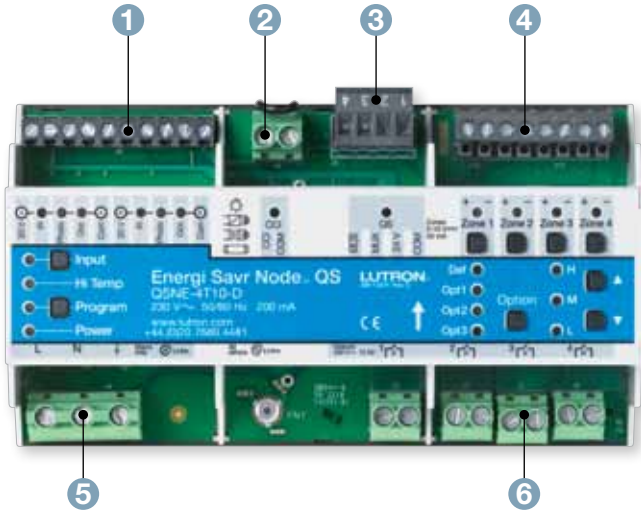
- Communicates via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- Requires QS sensor module for wireless communication
- QS system can have up to 100 devices and 100 zones; each Energi Savr Node and each assigned zone counts toward the 100 limit
- Supplies fourteen power draw units on the QS link<sup>2</sup>

<sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

<sup>2</sup>Limitations apply when multiple Energi Savr Node devices are linked together.

[Download specification submittal](#)

Explanation of features

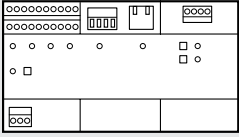


Energi Savr Node for 0-10V

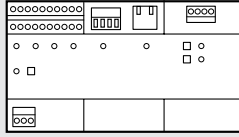
**Features**

<p><b>1</b> Wired daylight sensors</p>	<ul style="list-style-type: none"> <li>• Up to 2 wired sensors</li> </ul>
<p>Wired occupancy sensors</p>	<ul style="list-style-type: none"> <li>• Up to 2 wired occupancy sensors</li> </ul>
<p>Wired IR receivers</p>	<ul style="list-style-type: none"> <li>• Up to 2 inputs</li> </ul>
<p><b>2</b> Emergency contact closure input</p>	<ul style="list-style-type: none"> <li>• Forces all lights to 100% (by default)</li> </ul>
<p><b>3</b> QS link</p>	<ul style="list-style-type: none"> <li>• Link to additional wired controls, sensors, and interfaces</li> <li>• Connect to Radio Powr Savr™ sensors and Pico® wireless controls via QS sensor module</li> </ul>
<p><b>4</b> 0–10V channels</p>	<ul style="list-style-type: none"> <li>• 4 dimming zones (0-10V)</li> </ul>
<p><b>5</b> Mains wiring</p>	<ul style="list-style-type: none"> <li>• Wiring from distribution to bus supply</li> </ul>
<p><b>6</b> Switched load outputs</p>	<ul style="list-style-type: none"> <li>• 4 feed-through relays</li> <li>• 220–240V</li> </ul>

## Available models



Energi Savr Node for 0-10V



Energi Savr Node for Switching

## Model numbers

### **Energi Savr Node for 0-10V (DIN-rail)**

230V(CE), 220–240V

0-10V

QSNE-4T10-D

Compatible with Energi Savr Node system.

### **Energi Savr Node for Switching (DIN-rail)**

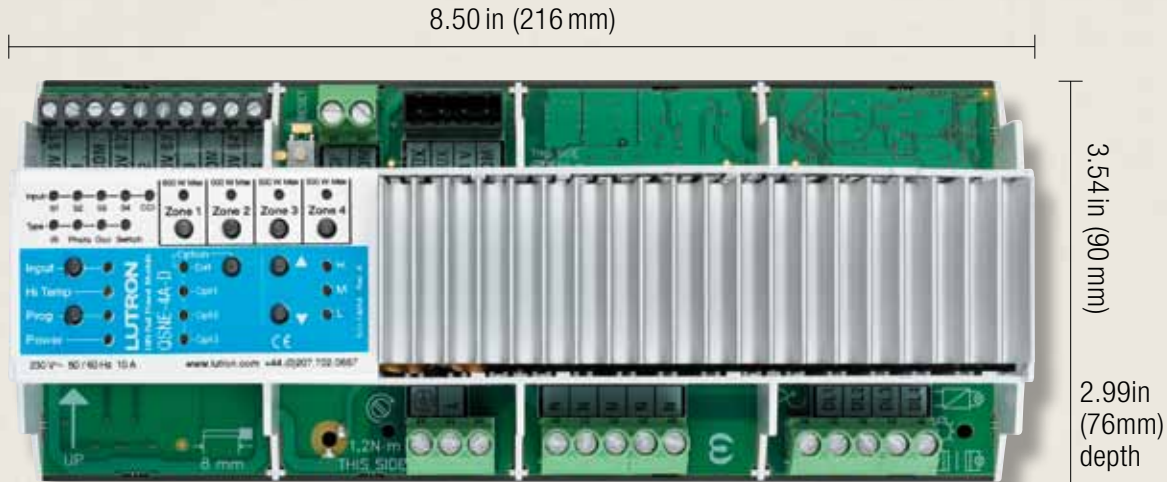
230V(CE), 220–240V

Switching

QSNE-4S10-D






Compatible with Energi Savr Node system.

For specific voltage by country information refer to voltage chart on pg. 462.



Shown above: Energi Savr Node phase adaptive (DIN-rail) (QSNE-4A-D)

### Direct lighting loads

-  Incandescent/halogen
-  Electronic low-voltage
-  Magnetic low-voltage
-  Neon/cold cathode
-  CFL/LED (screw-base)<sup>1</sup>

### Features and capacities

- Controls up to four zones of dimmable CFL/LED loads in addition to incandescent, halogen, electronic low-voltage, magnetic low-voltage, and neon/cold cathode light sources (Zone 1: 800W, Zone 2, 3, and 4: 500W)
- No minimum load requirement; one load type per zone
- Automatically selects leading edge or trailing edge dimming
- Four multi-functional inputs that are compatible with wired occupancy/vacancy sensors, daylight sensors, IR receivers, or IEC PELV switches
- Connect to Radio Powr Savr™ wireless sensor and Pico® wireless controls via QS sensor module
- Expand the system by linking nodes together and sharing sensors and controls via the QS link
- Easy system programming with manual button-press programming or intuitive application for iPod touch®, iPad® or iPhone®<sup>2</sup> (wireless router and Energi Savr Node programming interface required)

### Dimensions and mounting

- Width: 8.50 in (216mm)
- Height: 3.54 in (90mm)
- Depth: 2.99 in (76mm)
- Mounts to standard DIN-rail (width = 9.5mm)
- 12 DIN-wide device

### Communication and wiring

- Communicates via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- Requires QS sensor module for wireless communication
- QS system can have up to 100 devices and 100 zones; each Energi Savr Node and each assigned zone counts toward the 100 limit
- Supplies four power draw units on the QS link<sup>3</sup>

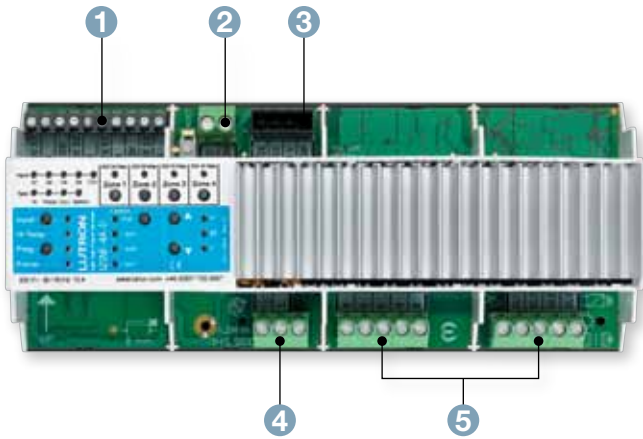
### Download specification submittal

<sup>1</sup> Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for a complete list of LEDs compatible with this module.

<sup>2</sup> iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

<sup>3</sup> Limitations apply when multiple Energi Savr Node devices are linked together.

## Explanation of features

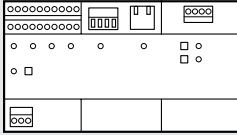


Energi Savr Node phase adaptive (DIN-rail)

### Features

<p><b>1</b> Multi-function inputs</p>	<ul style="list-style-type: none"> <li>• 4 sensor inputs link to occupancy/vacancy or daylight sensors, IR receivers, or IEC PELV contact switches for energy savings</li> </ul>
<p><b>2</b> Emergency contact closure input</p>	<ul style="list-style-type: none"> <li>• Force all lights to 100% (by default)</li> </ul>
<p><b>3</b> QS link</p>	<ul style="list-style-type: none"> <li>• Link to additional wired controls, sensors, and interfaces</li> <li>• Connect to Radio Powr Savr™ wireless sensors and Pico® wireless controls via QS sensor module</li> </ul>
<p><b>4</b> Mains wiring</p>	<ul style="list-style-type: none"> <li>• Wiring from distribution panel to module</li> </ul>
<p><b>5</b> Phase adaptive outputs</p>	<ul style="list-style-type: none"> <li>• Zone 1 – 800W, Zones 2-4 – 500W</li> <li>• 220 – 240V</li> </ul>

## Available models



Energi Savr Node phase adaptive (DIN-rail)

## Model numbers

**Energi Savr Node phase adaptive** (DIN-rail)

230 V(CE), 220–240 V

---

Phase adaptive

QSNE-4A-D

---

Compatible with Energi Savr Node system.

For specific voltage by country information refer to voltage chart on pg. 462.

# Sub-controls

A sub-control is an accessory component to a system that provides additional control locations for convenience and functionality.

The sub-controls shown in this guide are specific to each country's voltage and frequency requirements. Please confirm that the products you have selected match the required voltages by country on pg. 458.

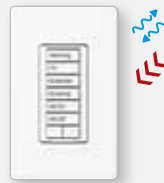
## Sub-control options include:

- Keypads
- Wired wallstations
- Wireless controls
- Infrared (IR) remote controls
- Keyswitches



### **Pico® wireless control**

pg. 164



### **RadioRA® 2 seeTouch® wireless keypad**

pg. 175



### **RadioRA 2 wireless tabletop keypad**

pg. 179



### **RadioRA 2 visor control transmitter**

pg. 182

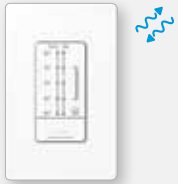


Wireless Radio Frequency (RF) communication



Infrared (IR) communication





**seeTemp®  
wall control**  
pg. 184



**IR remote  
control  
(line-of-sight)**  
pg. 196



**Wired Pico control**  
pg. 217



**TouchPro Wireless®  
thermostat**  
pg. 188



**seeTouch® QS  
keypad**  
pg. 199



**EcoSystem  
wallstation**  
pg. 220



**EcoSystem® IR remote  
control and IR receiver  
(line-of-sight)**  
pg. 191



**International  
seeTouch QS  
wallstation**  
pg. 207



**QS timeclock**  
pg. 223



**QS IR Eye**  
pg. 194



**QS keyswitch**  
pg. 213



Shown actual size:  
3-button with raise/lower Pico wireless control in White (PJ-3BRL-GWH-T01)

## Features and capacities

- Allows master control from any location without wires
- Available in a variety of colors and button configurations with predetermined button labeling
- Buttons can control a single light or shade, or zone of lights or group of shades
- Models available to control lighting and non-lighting loads, as well as shade groups
- Simple to install in single-gang or multi-gang applications with Lutron Claro® or international wallplates
- Battery included
- Add wireless controls to a system for increased convenience and energy savings

## Dimensions and mounting

- Width: 1.30 in (33 mm)  
Height: 2.60 in (66 mm)  
Depth: 0.31 in (8 mm)
- Can be handheld, mounted to wall using Pico wallplate adapter kit, mounted on a tabletop pedestal, or kept on a car visor clip

## Communication and wiring

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other wireless devices
- Models available for operation at 434 MHz, 434 limited channel MHz, 865 MHz, 868 MHz, 868 limited channel MHz, and 315 MHz band
- RF range is 30 ft (9m) through to compatible RF devices
- Each Maestro® wireless dimmer/switch or PowPak® module can communicate with up to 9 Pico wireless controls
- Each GRAFIK Eye® QS main unit can communicate with up to 30 wireless devices; each Pico wireless control counts as one wireless device toward the limit
- Each QS sensor module can communicate with up to ten Pico wireless controls
- A RadioRA® 2 system can have up to 200 devices; each Pico wireless control counts as one device toward the limit

[Download specification submittal](#)

## Available finishes

Use **BOLD** color code in model number (Example: PJ-3BRL-**GWH**-T01)

### Gloss finishes



**WH**  
White



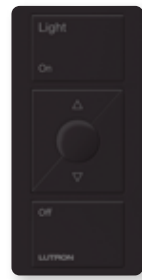
**WG**  
White/Gray



**IV**  
Ivory



**LA**  
Light Almond



**BL**  
Black



**TAW**  
Arctic White



**TBL**  
Black

### Matte finishes

### White color palette in all models



2-button



2-button  
with raise/  
lower



3-button



3-button  
with raise/  
lower

### White/Gray color palette in all models



2-button



2-button  
with raise/  
lower



3-button



3-button  
with raise/  
lower

### Pedestal finishes

Gloss finishes



**WH**  
White



**BL**  
Black

For engraving information see pg. 169 (434 MHz models), pg. 172 (868 MHz, 868 limited channel MHz, 865 MHz, and 434 limited channel MHz models), and pg. 174 (315 MHz models).

## Mounting options

### Single pedestal for tabletops

(L-PED1-)



### Dual pedestal for tabletops

(L-PED2-)



### Triple pedestal for tabletops

(L-PED3-)



### Quad pedestal for tabletops

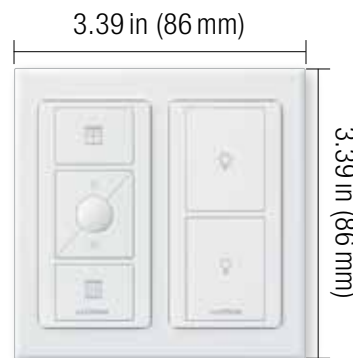
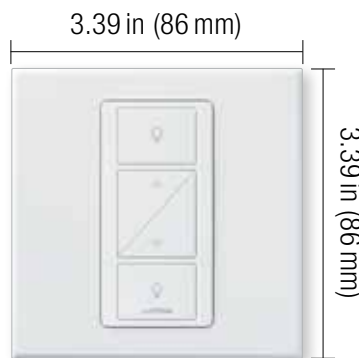
(L-PED4-)



### Wall-mount

(no wallbox required)

2.94 in (75 mm)



### Car visor clip

(PICO-CARVISOR-CL)

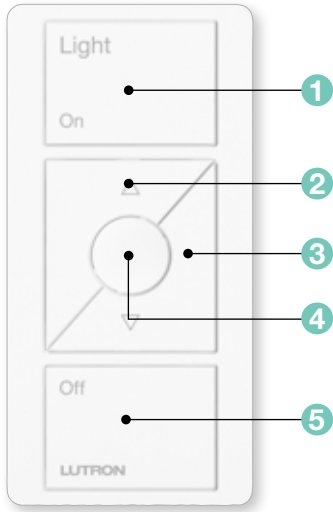


Pico mounted inside a 1-gang Claro® wallplate in White (CW-1-WH), see pg. 392 (adapter plate required PICO-FP-ADAPT)

Left: Pico mounted inside a 1-gang International wallplate in Arctic White (PFP-1-B-FAW-M)

Right: Two Picos mounted inside a 2-gang International wallplate in Arctic White (PFP-2-B-FAW-M)

### Explanation of features



3-button Pico  
(with raise/lower)

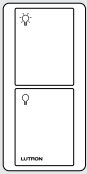
.31 in  
(8 mm)



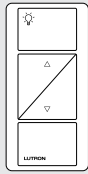
#### Features

<b>1</b> On/Open	<ul style="list-style-type: none"> <li>Press once and lighting device(s) brighten to full intensity or shades move to open</li> </ul>
<b>2</b> Raise button/ tilt up	<ul style="list-style-type: none"> <li>Press and hold for lights to increase in intensity, for shades to open, or for venetian blinds to tilt</li> </ul>
<b>3</b> Lower button/ tilt down	<ul style="list-style-type: none"> <li>Press and hold for lights to decrease in intensity, for shades to close, or for venetian blinds to tilt</li> </ul>
<b>4</b> Preset button	<ul style="list-style-type: none"> <li>Tap once to recall a favorite lighting or shade level</li> </ul>
<b>5</b> Off/Close	<ul style="list-style-type: none"> <li>Tap once and lighting device(s) will dim to off or shades will close</li> </ul>

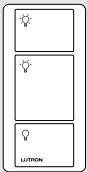
### Available models (434 MHz)



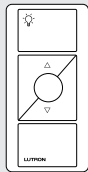
2-button



2-button  
with raise/lower



3-button



3-button  
with raise/lower

### Model numbers (434 MHz)

#### 2-button Pico (434 MHz)

Light icon	PJ-2B-G <b>XX</b> <sup>1</sup> -I01
Light text	PJ-2B-G <b>XX</b> <sup>1</sup> -T01
Power icon	PJ-2B-G <b>XX</b> <sup>1</sup> -I14

#### 3-button Pico (434 MHz)

Light icon	PJ-3B-G <b>XX</b> <sup>1</sup> -I01
Light text	PJ-3B-G <b>XX</b> <sup>1</sup> -T01

#### 2-button with raise/lower Pico (434 MHz)

Light icon	PJ-2BRL-G <b>XX</b> <sup>1</sup> -I01
Light text	PJ-2BRL-G <b>XX</b> <sup>1</sup> -T01
Shade icon	PJ-2BRL-G <b>XX</b> <sup>1</sup> -I02
Shade text	PJ-2BRL-G <b>XX</b> <sup>1</sup> -T02
Drapery icon	PJ-2BRL-G <b>XX</b> <sup>1</sup> -I08
Drapery text	PJ-2BRL-G <b>XX</b> <sup>1</sup> -T08

#### 3-button with raise/lower Pico (434 MHz)

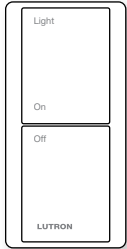
Light icon	PJ-3BRL-G <b>XX</b> <sup>1</sup> -I01
Light text	PJ-3BRL-G <b>XX</b> <sup>1</sup> -T01
Shade icon	PJ-3BRL-G <b>XX</b> <sup>1</sup> -I02
Shade text	PJ-3BRL-G <b>XX</b> <sup>1</sup> -T02
Shade 1 text	PJ-3BRL-G <b>XX</b> <sup>1</sup> -T05
Shade 2 text	PJ-3BRL-G <b>XX</b> <sup>1</sup> -T06
Screen text	PJ-3BRL-G <b>XX</b> <sup>1</sup> -T07
Drape icon	PJ-3BRL-G <b>XX</b> <sup>1</sup> -I08
Drape text	PJ-3BRL-G <b>XX</b> <sup>1</sup> -T08
Blackout text	PJ-3BRL-G <b>XX</b> <sup>1</sup> -T09
Sheer text	PJ-3BRL-G <b>XX</b> <sup>1</sup> -T10
Blind text	PJ-3BRL-G <b>XX</b> <sup>1</sup> -T13

Compatible with Energi TriPak®, GRAFIK Eye® QS, Energi Savr Node™ and RadioRA® 2 systems.

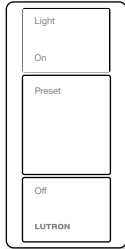
**XX**<sup>1</sup>: Available in Gloss finishes: White (WH), White/Gray (WG), Light Almond (LA), Ivory (IV), and Black (BL), see pg. 165

## Engraving options and model number engraving codes for 434 MHz models

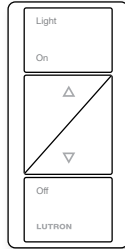
### Light – Text



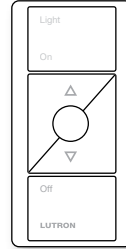
2-button (T01)



3-button (T01)

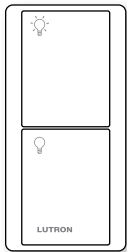


2-button with raise/lower (T01)

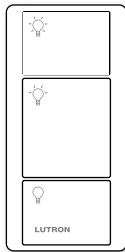


3-button with raise/lower (T01)

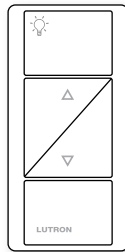
### Light and Power – Icons



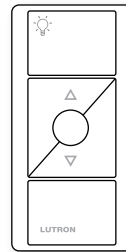
2-button (I01)



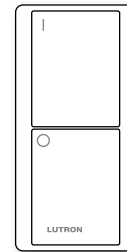
3-button (I01)



2-button with raise/lower (I01)

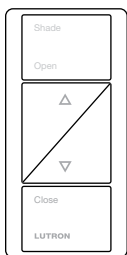


3-button with raise/lower (I01)

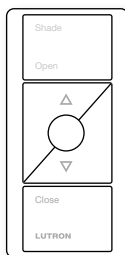


2-button (I14)

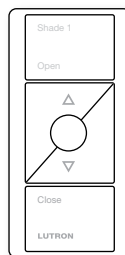
### Automated Window Treatments – Text



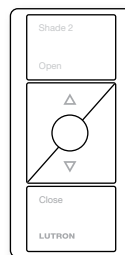
2-button with raise/lower – Shade (T02)



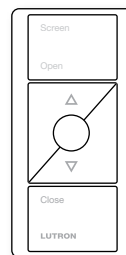
3-button with raise/lower – Shade (T02)



3-button with raise/lower – Shade 1 (T05)

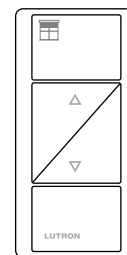


3-button with raise/lower – Shade 2 (T06)

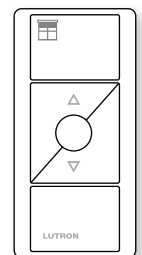


3-button with raise/lower – Screen (T07)

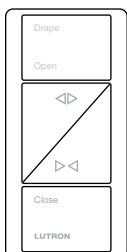
### Automated Window Treatments – Icons



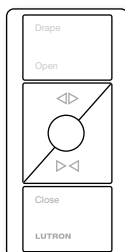
2-button with raise/lower – Shade (I02)



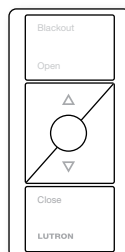
3-button with raise/lower – Shade (I02)



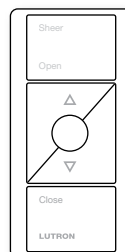
2-button with raise/lower – Drape (T08)



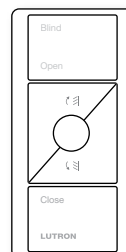
3-button with raise/lower – Drape (T08)



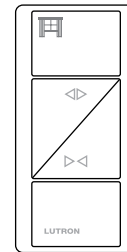
3-button with raise/lower – Blackout (T09)



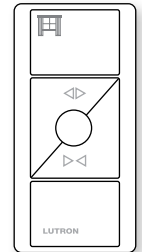
3-button with raise/lower – Sheer (T10)



3-button with raise/lower – Blind (T13)



2-button with raise/lower – Drape (I08)



3-button with raise/lower – Drape (I08)



Available models  
(865 MHz, 868 MHz,  
868 limited channel MHz, and  
434 limited channel MHz)



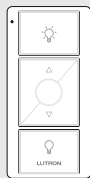
2-button



2-button  
with raise/lower



3-button



3-button  
with raise/lower

## Model numbers (865 MHz)

### 2-button Pico (865 MHz)

Light	QSRNP-2-T <b>XX</b> <sup>1</sup> -103
Roller blind	QSRNP-2-T <b>XX</b> <sup>1</sup> -104
Curtain	QSRNP-2-T <b>XX</b> <sup>1</sup> -113

### 3-button Pico (865 MHz)

Light	QSRNP-3-T <b>XX</b> <sup>1</sup> -103
Roller blind	QSRNP-3-T <b>XX</b> <sup>1</sup> -104
Curtain	QSRNP-3-T <b>XX</b> <sup>1</sup> -113

### 2-button Pico with raise/lower (865 MHz)

Light	QSRNP-2R-T <b>XX</b> <sup>1</sup> -103
Roller blind	QSRNP-2R-T <b>XX</b> <sup>1</sup> -104
Curtain	QSRNP-2R-T <b>XX</b> <sup>1</sup> -113

### 3-button Pico with raise/lower (865 MHz)

Light	QSRNP-3R-T <b>XX</b> <sup>1</sup> -103
Roller blind	QSRNP-3R-T <b>XX</b> <sup>1</sup> -104
Curtain	QSRNP-3R-T <b>XX</b> <sup>1</sup> -113

Compatible with GRAFIK Eye® QS and Energi Savr  
Node™ systems.

**XX**<sup>1</sup>: Available in Matte Arctic White (TAW) or  
Matte Black (TBL), see pg. 165

## Model numbers (868 MHz)

### 2-button Pico (868 MHz)

Light	QSRKP-2- <b>XX</b> <sup>1</sup> I03
Roller blind	QSRKP-2- <b>XX</b> <sup>1</sup> I04
Curtain	QSRKP-2- <b>XX</b> <sup>1</sup> I13

### 3-button Pico (868 MHz)

Light	QSRKP-3- <b>XX</b> <sup>1</sup> I03
Roller blind	QSRKP-3- <b>XX</b> <sup>1</sup> I04
Curtain	QSRKP-3- <b>XX</b> <sup>1</sup> I13

### 2-button Pico with raise/lower (868 MHz)

Light	QSRKP-2R- <b>XX</b> <sup>1</sup> I03
Roller blind	QSRKP-2R- <b>XX</b> <sup>1</sup> I04
Curtain	QSRKP-2R- <b>XX</b> <sup>1</sup> I13

### 3-button Pico with raise/lower (868 MHz)

Light	QSRKP-3R- <b>XX</b> <sup>1</sup> I03
Roller blind	QSRKP-3R- <b>XX</b> <sup>1</sup> I04
Curtain	QSRKP-3R- <b>XX</b> <sup>1</sup> I13

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems

## Model numbers (868 MHz limited channel MHz)

### 2-button Pico (868 limited channel MHz)

Light	QSRMP-2- <b>XX</b> <sup>1</sup> I03
Roller blind	QSRMP-2- <b>XX</b> <sup>1</sup> I04
Curtain	QSRMP-2- <b>XX</b> <sup>1</sup> I13

### 2-button Pico with raise/lower (868 limited channel MHz)

Light	QSRMP-2R- <b>XX</b> <sup>1</sup> I03
Roller blind	QSRMP-2R- <b>XX</b> <sup>1</sup> I04
Curtain	QSRMP-2R- <b>XX</b> <sup>1</sup> I13

### 3-button Pico with raise/lower (868 limited channel MHz)

Light	QSRMP-3R- <b>XX</b> <sup>1</sup> I03
Roller blind	QSRMP-3R- <b>XX</b> <sup>1</sup> I04
Curtain	QSRMP-3R- <b>XX</b> <sup>1</sup> I13

Compatible with GRAFIK Eye QS and Energi Savr Node, and Energi TriPak® system.

**XX**<sup>1</sup>: Available in Gloss White (WH), Gloss Black (BL), Matte Arctic White (TAW) or Matte Black (TBL), see pg. 165

### Model numbers (434 limited channel MHz)

#### 2-button Pico (434 limited channel MHz)

Light	QSRQP-2-T <b>XX</b> <sup>1</sup> -I03
Roller blind	QSRQP-2-T <b>XX</b> <sup>1</sup> -I04
Curtain	QSRQP-2-T <b>XX</b> <sup>1</sup> -I13

#### 3-button Pico (434 limited channel MHz)

Light	QSRQP-3-T <b>XX</b> <sup>1</sup> -I03
Roller blind	QSRQP-3-T <b>XX</b> <sup>1</sup> -I04
Curtain	QSRQP-3-T <b>XX</b> <sup>1</sup> -I13

#### 2-button Pico with raise/lower (434 limited channel MHz)

Light	QSRQP-2R-T <b>XX</b> <sup>1</sup> -I03
Roller blind	QSRQP-2R-T <b>XX</b> <sup>1</sup> -I04
Curtain	QSRQP-2R-T <b>XX</b> <sup>1</sup> -I13

#### 3-button Pico with raise/lower (434 limited channel MHz)

Light	QSRQP-3R-T <b>XX</b> <sup>1</sup> -I03
Roller blind	QSRQP-3R-T <b>XX</b> <sup>1</sup> -I04
Curtain	QSRQP-3R-T <b>XX</b> <sup>1</sup> -I13

Compatible with Energi TriPak® and Energi Savr Node™ systems.

### Engraving options and model number engraving codes for 865 MHz, 868 MHz, 868 limited channel MHz, and 434 limited channel MHz models

#### Light – Icons

2-button (I03)	3-button (I03)	2-button with raise/lower (I03)	3-button with raise/lower (I03)

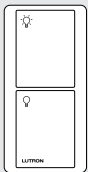
#### Automated Window Treatments – Icons

2-button— Roller blind (I04)	2-button— Curtain (I13)	3-button— Roller blind (I04)*	3-button— Curtain (I13)*
3-button with raise/lower— Roller blind (I04)	3-button with raise/lower— Curtain (I13)	3-button with raise/lower— Roller blind (I04)	3-button with raise/lower— Curtain (I13)

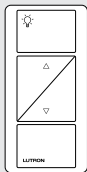
\*3-button not available in QSRMP- (868 limited channel MHz) models.

**XX<sup>1</sup>**: Available in Gloss White (WH), Gloss Black (BL), Matte Arctic White (TAW) or Black (TBL), see pg. 165

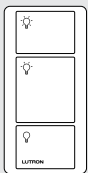
### Available models (315 MHz)



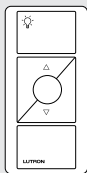
2-button



2-button  
with raise/lower



3-button



3-button  
with raise/lower

### Model numbers (315 MHz)

#### 2-button Pico (315 MHz)

Light	MRF6-2B-L- <b>XX</b> <sup>1</sup>
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#### 3-button Pico (315 MHz)

Light	MRF6-3B-L- <b>XX</b> <sup>1</sup>
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#### 2-button Pico with raise/lower (315 MHz)

Light	MRF6-2BRL-L- <b>XX</b> <sup>1</sup>
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#### 3-button Pico with raise/lower (315 MHz)

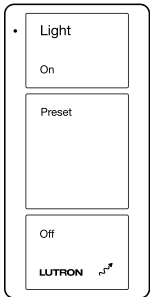
Light	MRF6-2BRL-L- <b>XX</b> <sup>1</sup>
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Compatible with Energi TriPak system.

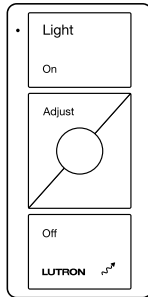
**XX**<sup>1</sup>: Available in Gloss White (WH), Gloss White/Gray (WG), or Gloss Black (BL), see pg. 165

## Engraving options and model number engraving codes for 315 MHz channel models

### Light – Text

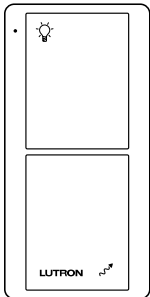


3-button (T01)

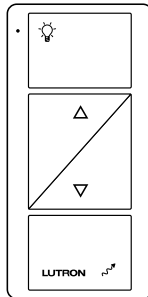


3-button with raise/lower (T01)

### Light – Icons



2-button (I01)



2-button with raise/lower (I01)

## Model numbers

### Pedestal and adapter kit (for all Pico models)

#### Pico tabletop pedestals

Single pedestal	L-PED1- <b>XX</b> <sup>1</sup>
Dual pedestal	L-PED2- <b>XX</b> <sup>1</sup>
Triple pedestal	L-PED3- <b>XX</b> <sup>1</sup>
Quadruple pedestal	L-PED4- <b>XX</b> <sup>1</sup>

Pico wireless control not included with pedestal, order separately.

#### Adapters

Wallplate adapter	PICO-FP-ADAPT
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For international wallplate and adapter, call Lutron customer service for details.

#### Car visor clip

Car visor clip	PICO-CARVISOR-CL
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**XX**<sup>1</sup>: Available in Gloss White (WH) or Gloss Black (BL), see pg. 165



Shown actual size: 5-button engraved, with raise/lower keypad in White (RRD-W5BRL-WH) and 1-gang Claro wallplate in White (CW-1-WH)

## Features and capacities

- Flexible programming options allow buttons to provide a wide range of functions
- Programmable to select scene or room preset lighting levels or shade positions
- Fine-tune scenes by pressing and holding the raise/lower buttons
- Adjustable backlight intensity assists to find control in low-light conditions
- Available in 10 button style configurations and 27 colors
- Coordinating Claro®, Satin Colors® and Stainless Steel wallplates available separately (Lutron wallplates only), see pg. 408
- Multi-gang wallplates also available (up to 6-gang), see pg. 408
- For information on engraving, text symbols and backlit buttons/backlit text, see pg. 433-434
- A RadioRA 2 system can have up to 100 devices per main repeater and up to two main repeaters per system (requires qualification of installer)

## Dimensions and mounting

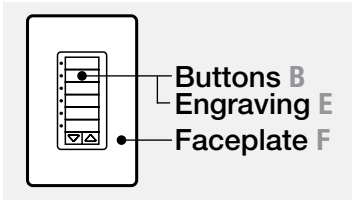
- Width: 2.94 in (75 mm)  
Height: 4.69 in (119 mm)  
Depth: 1.06 in (27 mm)  
Profile: .31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

## Communication and wiring

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other Lutron wireless devices
- Requires a 120V hot and neutral wire connection
- Must be located within 30 ft (9m) of a main or auxiliary repeater
- Operates at 434 MHz band

[Download specification submittal](#)  
[Download high resolution product image](#)  
[Download engraving sheet \(button kit\)](#)

## Available finishes



Use **BOLD** color code in model number (Example: RRD-W6BRL-3P-**WH**)

### Gloss finishes\*



**WH**  
White **F, B**  
Gray **E**



**LA**  
Light Almond **F, B**  
Gray **E**



**AL**  
Almond **F, B**  
Gray **E**



**IV**  
Ivory **F, B**  
Gray **E**



**GR**  
Gray **F, B**  
White **E**



**BR**  
Brown **F, B**  
White **E**



**BL**  
Black **F, B**  
White **E**

### Satin finishes\*



**SW**  
Snow **F, B**  
Gray **E**



**LS**  
Limestone **F**  
Gray **B**  
White **E**



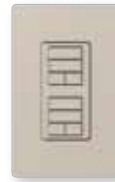
**BI**  
Biscuit **F, B**  
Gray **E**



**ES**  
Eggshell **F, B**  
Gray **E**



**PD**  
Palladium **F**  
Gray **B**  
White **E**



**TP**  
Taupe **F, B**  
Gray **E**



**ST**  
Stone **F**  
Gray **B**  
White **E**



**BG**  
Bluestone **F**  
Gray **B**  
White **E**



**PL**  
Plum **F**  
Taupe **B**  
Gray **E**



**TQ**  
Turquoise **F**  
Gray **B**  
White **E**



**GS**  
Goldstone **F**  
Ivory **B**  
Gray **E**



**DS**  
Desert Stone **F**  
Taupe **B**  
Gray **E**



**GB**  
Greenbriar **F**  
Gray **B**  
White **E**



**MS**  
Mocha Stone **F**  
Taupe **B**  
Gray **E**



**TC**  
Terracotta **F**  
Taupe **B**  
Gray **E**



**SI**  
Sienna **F**  
Brown **B**  
White **E**



**HT**  
Hot **F**  
Taupe **B**  
Gray **E**



**MR**  
Merlot **F**  
Taupe **B**  
Gray **E**



**MN**  
Midnight **F, B**  
White **E**

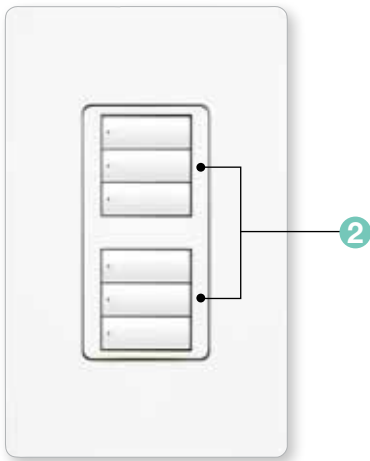
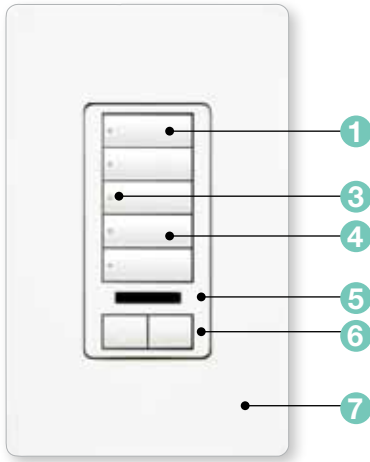


**SS**  
Stainless Steel **F**  
Black **B** (default)  
White **E**

Coordinating wallplates only available separately. For wallplate information, see pg. 408.



### Explanation of features



RadioRA 2 wall-mount designer wireless keypad in insert and non-insert styles

.31 in (8 mm)    1.09 in (28 mm)

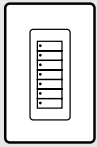


Features	
1 Keypad buttons	<ul style="list-style-type: none"> <li>Press to activate desired levels or positions</li> <li>Available with 3, 5, 6, or 7 buttons</li> </ul>
2 Dual configuration	<ul style="list-style-type: none"> <li>The wallstation functions as two independently programmable 2- or 3-button controllers; each dual wallstation can control lighting zones, shade zones, or a combination of both simultaneously</li> </ul>
3 Status LEDs	<ul style="list-style-type: none"> <li>Indicate which keypad button has been activated</li> </ul>
4 Backlit buttons	<ul style="list-style-type: none"> <li>Easy to read and use in low-light conditions</li> </ul>
5 Infrared (IR) receiver (optional)	<ul style="list-style-type: none"> <li>Accepts Lutron IR commands from a third-party universal remote*</li> <li>All keypads have IR input on the back of the keypad, which can wire to a remote sensor</li> </ul>
6 Raise/lower buttons (optional)	<ul style="list-style-type: none"> <li>Lights increase or decrease in intensity or shades/draperies move towards the open/close limit</li> </ul>
7 Wallplate	<ul style="list-style-type: none"> <li>Lutron Claro® wallplate with insert opening must be specified and ordered separately (will not accept standard designer wallplate)</li> </ul>

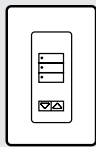
\*GRX-IT and GRX-8IT can also be used.

## Available models

(Insert style only)



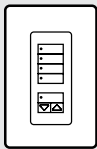
7-button



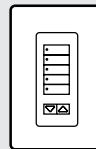
3-button with raise/lower



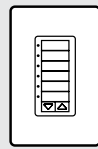
3-button spaced with raise/lower



4-scene with raise/lower



5-button with raise/lower



6-button with raise/lower



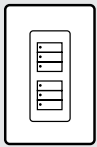
5-button with raise/lower and IR receiver



2-button dual with raise/lower



3-button and 2-button with raise/lower



3-button dual

**XX**<sup>1</sup>: Gloss and Satin Colors® codes, see pg. 176 (Wallplates not included. Order separately, see pg. 408)

**E**<sup>1</sup>: Complete an engraving sheet for each button kit. If no engraving is desired, remove the “-E” from the model number.

## Model numbers

### Keypads

7-button RRD-W7B-**XX**<sup>1</sup>

Compatible with RadioRA 2 systems.

### Keypads with raise/lower

3-button with raise/lower RRD-W3BRL-**XX**<sup>1</sup>

3-button spaced with raise/lower RRD-W3BSRL-**XX**<sup>1</sup>

4-scene with raise/lower RRD-W4S-**XX**<sup>1</sup>

5-button with raise/lower RRD-W5BRL-**XX**<sup>1</sup>

5-button with raise/lower and IR receiver RRD-W5RLIR-**XX**<sup>1</sup>

6-button with raise/lower RRD-W6BRL-**XX**<sup>1</sup>

Compatible with RadioRA 2 systems.

### Dual configurations

2-button dual keypad with raise/lower RRD-W2RLD-**XX**<sup>1</sup>

2-button with raise/lower and 3-button dual RRD-W1RLD-**XX**<sup>1</sup>

3-button dual RRD-W3BD-**XX**<sup>1</sup>

Compatible with RadioRA 2 systems.

### Engraved replacement kits

2-button with raise/lower and 3-button dual RKD-W1RLD-**XX**<sup>1</sup>-**E**<sup>1</sup>

2-button dual keypad with raise/lower RKD-W2RLD-**XX**<sup>1</sup>-**E**<sup>1</sup>

3-button dual RKD-W3BD-**XX**<sup>1</sup>-**E**<sup>1</sup>

3-button with raise/lower RKD-W3BRL-**XX**<sup>1</sup>-**E**<sup>1</sup>

3-button spaced with 4-scene with raise/lower RKD-W3BSRL-**XX**<sup>1</sup>-**E**<sup>1</sup>

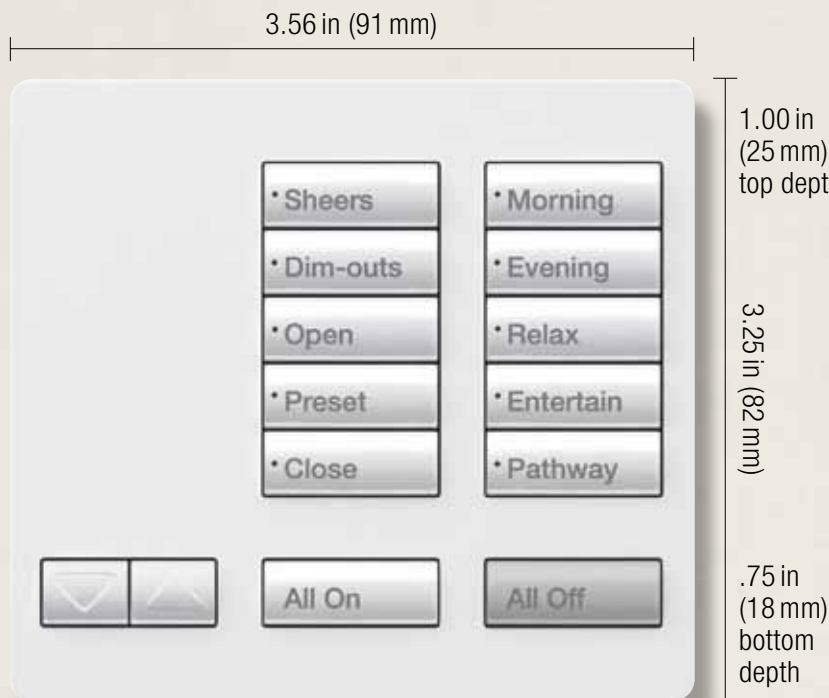
5-button with raise/lower RKD-W5BRL-**XX**<sup>1</sup>-**E**<sup>1</sup>

5-button with raise/lower and IR receiver RKD-W5RLIR-**XX**<sup>1</sup>-**E**<sup>1</sup>

6-button with raise/lower RKD-W6BRL-**XX**<sup>1</sup>-**E**<sup>1</sup>

7-button with raise/lower RKD-W7B-**XX**<sup>1</sup>-**E**<sup>1</sup>

Compatible with RadioRA® 2 seeTouch® wireless keypads.



Shown actual size: 10-button with raise/lower tabletop keypad in Snow (RR-T10RL-SW)

## Features and capacities

- Simple way to operate lights/shades
- Fine-tune light levels and shade/drapery positions by pressing and holding the raise/lower buttons
- Programmable to select whole-house, single-room preset levels or single zones of lights or shades
- Flexible programming options allow buttons to provide a wide range of functions
- Configurable raise/lower selection
- For information on engraving, text symbols, and backlit buttons/backlit text, see pgs. 433-434
- A RadioRA 2 system can have up to 100 devices per main repeater and up to two main repeaters per system (requires qualification of installer)
- Keypads can be powered by DC adapter (included) or with two AAA batteries
- Buttons can control a single shade or multiple shades

## Dimensions and mounting

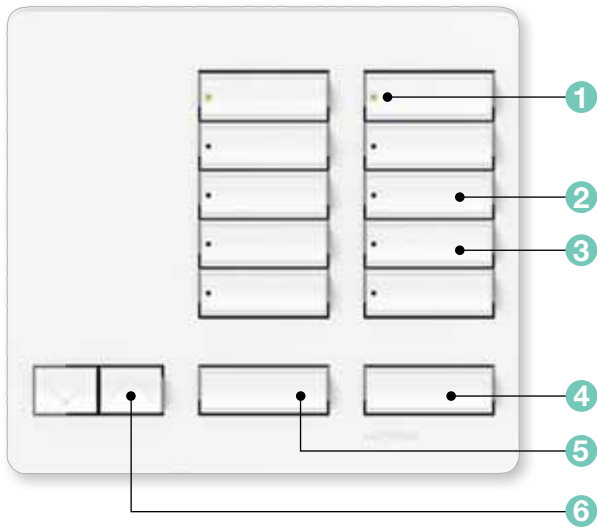
- Width: 3.56 in (91 mm)  
Height: 3.25 in (82 mm)  
Top depth: 1.00 in (25 mm)  
Bottom depth: .75 in (18 mm)
- Mounting bracket included for optional wall-mount applications

## Communication and wiring

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other Lutron wireless devices
- Operates at 434 MHz band
- Must be located within 30 ft (9m) of a main or auxillary repeater

[Download specification submittal](#)  
[Download high resolution product image](#)  
[Download engraving sheet \(button kit\)](#)

## Explanation of features



10-button with raise/lower tabletop keypad



### Features

<b>1</b> Status LEDs	<ul style="list-style-type: none"> <li>Show status of devices being controlled</li> </ul>
<b>2</b> Keypad buttons	<ul style="list-style-type: none"> <li>Press to activate desired light levels or shade positions</li> <li>Available in three rows for 5, 10, or 15 buttons</li> </ul>
<b>3</b> Backlit buttons	<ul style="list-style-type: none"> <li>Easy to read and use in low-light conditions</li> </ul>
<b>4</b> All Off button	<ul style="list-style-type: none"> <li>Programmable to turn all lights and shades/draperies to full off or closed</li> </ul>
<b>5</b> All On button	<ul style="list-style-type: none"> <li>Programmable to turn all lights and shades/draperies to full on or open</li> </ul>
<b>6</b> Raise/lower buttons	<ul style="list-style-type: none"> <li>Lights increase or decrease in intensity or shades/draperies move toward the open/close limit</li> </ul>

## Available finishes

### Satin finishes

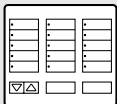
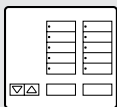
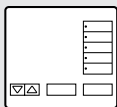


**SW**  
Snow



**MN**  
Midnight

## Available models



5-, 10-, 15-button with raise/lower and All On/All Off

## Model numbers

### Keypad

5-button with raise/lower, All On and All Off RR-T5RL-**XX**<sup>1</sup>

5-button with raise/lower, All On and All Off (for Brazil) RR-T5RL-**XX**<sup>1</sup>-BA

10-button with raise/lower, All On and All Off RR-T10RL-**XX**<sup>1</sup>

10-button with raise/lower, All On and All Off (for Brazil) RR-T10RL-**XX**<sup>1</sup>-BA

15-button with raise/lower, All On and All Off RR-T15RL-**XX**<sup>1</sup>

15-button with raise/lower, All On and All Off (for Brazil) RR-T15RL-**XX**<sup>1</sup>-BA

Compatible with RadioRA 2 systems.

### Engraved replacement kits

5-button with raise/lower, All On and All Off RK-T5RL-**XX**<sup>1</sup>-**E**<sup>1</sup>

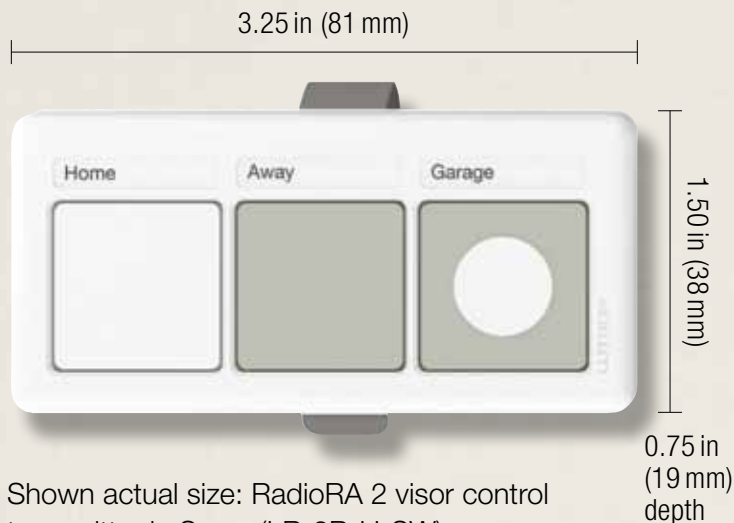
10-button with raise/lower, All On and All Off RK-T10RL-**XX**<sup>1</sup>-**E**<sup>1</sup>

15-button with raise/lower, All On and All Off RK-T15RL-**XX**<sup>1</sup>-**E**<sup>1</sup>

Compatible with RadioRA 2 systems.

**XX**<sup>1</sup>: Available in Snow (SW) and Midnight (MN)

**E**<sup>1</sup>: Complete an engraving sheet for each button kit. If no engraving is desired, remove the “-E” from the model number.



## Features and capacities

- Visor controls allow lights, shades, and other equipment to be controlled from the car with just the touch of a button
- Visor control receiver required, available separately, see pg. 272
- Can activate up to seven different options for lights/shades
- Up to 10 transmitters can be used with a visor control receiver
- Available exclusively in Snow (SW)
- HomeLink® compatible
- Battery included; 10-year battery life
- The receiver (available separately) can be programmed to control Sivoia® QS wireless shades (pg.384)

## Dimensions and mounting

- Width: 3.25 in (81 mm)  
Height: 1.50 in (38 mm)  
Depth: 0.75 in (19 mm)
- Car visor mounting clip included

## Communication and wiring

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other wireless devices
- Operates at 390 MHz band
- Typical operating distance between a receiver and transmitter is up to 150 ft (46 m) line-of-sight

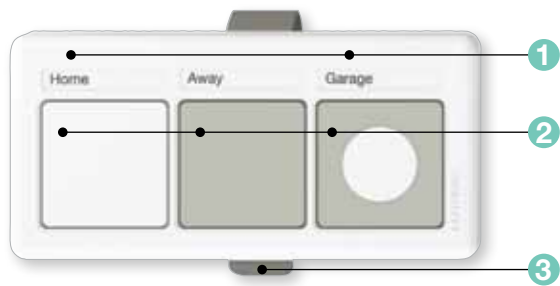
## Related component



RadioRA 2 visor control receiver,  
power cord not shown  
(available separately, see pg. 272)

[Download specification submittal](#)  
[Download high resolution product image](#)

## Explanation of features



RadioRA 2 visor control transmitter

.75 in (19 mm)



### Features

<p><b>1</b> Labels</p>	<ul style="list-style-type: none"> <li>Place pre-printed labels in depression to name buttons</li> </ul>
<p><b>2</b> Visor control transmitter buttons</p>	<ul style="list-style-type: none"> <li>Press to activate functions remotely</li> <li>Combo presses provide up to seven actions</li> </ul>
<p><b>3</b> Visor clip</p>	<ul style="list-style-type: none"> <li>Removable clip</li> </ul>

## Model numbers

### Transmitter (390 MHz)

Car visor transmitter

LR-3B-H-SW

Compatible with RadioRA 2 systems.





Shown actual size: seeTemp wall control (LRD-WST-F-WH) in Fahrenheit configuration and 1-gang Claro wallplate in White (CW-1-WH)

### Features and capacities

- seeTemp wall control can be placed at a preferred control location, without regard for the local temperature, while the wireless temperature sensor is placed where readings will be most accurate
- Celsius and Fahrenheit models available
- Features flush-mounting and an elegant, slim design
- Designer-style opening that can be ganged with other devices such as dimmers and keypads
- Coordinating Claro®, Satin Colors® and Stainless Steel wallplates only available separately, not compatible with non-Lutron wallplates, see pg. 408
- A RadioRA 2 system can have up to 100 devices per main repeater, and up to two main repeaters per system (requires qualification of installer)
- eco button saves energy by setting back temperature to a pre-configured set point

### Dimensions and mounting

- Width: 2.94 in (75 mm)  
Height: 4.69 in (119 mm)  
Depth: 1.25 in (31 mm)  
Profile: .30 in (8 mm)
- Mounts into U.S. backbox, 3.50 in (89 mm) deep recommended, 2.25 in (57 mm) deep minimum

### Communication and wiring

- Thermostat controls communicate via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other Lutron wireless devices
- Wires via line voltage (requires neutral) or low-voltage IEC PELV/NEC Class 2
- Operates at 434 MHz band
- Must be located within 30 ft (9 m) of a repeater

### Related components



Wireless wall-mount temperature sensor (available separately, see pg. 242)



HVAC controller (available separately, see pg. 275)

[Download specification submittal](#)  
[Download high resolution product image](#)

## Available finishes

Use **BOLD** color code in model number (Example: LRD-WST-F-**WH**)

### Gloss finishes\*



**WH**  
White



**LA**  
Light Almond



**AL**  
Almond



**IV**  
Ivory



**GR**  
Gray



**BR**  
Brown



**BL**  
Black

### Satin finishes\*



**SW**  
Snow



**LS**  
Limestone



**BI**  
Biscuit



**ES**  
Eggshell



**PD**  
Palladium



**TP**  
Taupe



**ST**  
Stone



**BG**  
Bluestone



**PL**  
Plum



**TQ**  
Turquoise



**GS**  
Goldstone



**DS**  
Desert Stone



**GB**  
Greenbriar



**MS**  
Mocha Stone



**TC**  
Terracotta



**SI**  
Sienna



**HT**  
Hot



**MR**  
Merlot



**MN**  
Midnight

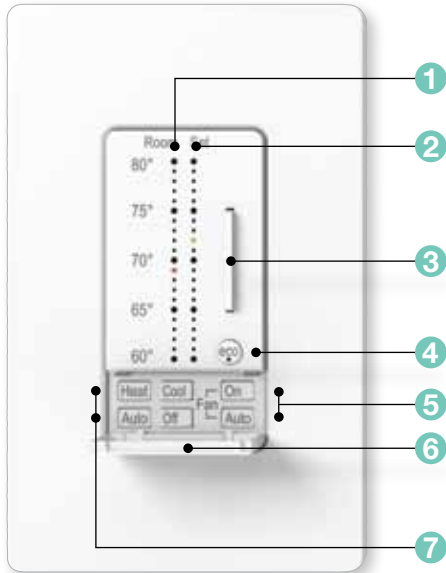


**SS\*\***  
Stainless Steel  
(wallplate only)

\*Coordinating wallplates only available separately. For wallplate information, see pg. 408.

\*\*Stainless Steel wallplate includes black plastic trim/adaptor, visible from side. Match with separate Black (BL) or Midnight (MN) controls.

## Explanation of features



seeTemp wall control with lid open

.31 in 1.21 in  
(8 mm) (31 mm)



### Features

1 Room temperature LEDs	<ul style="list-style-type: none"> <li>Column of red LEDs that display the current room temperature</li> </ul>
2 Set temperature LEDs	<ul style="list-style-type: none"> <li>Column of green LEDs that display the current temperature set point</li> <li>Set LED turns off when system is turned off</li> </ul>
3 Raise/lower rocker	<ul style="list-style-type: none"> <li>Press to raise/lower the set temperature point</li> </ul>
4 eco button	<ul style="list-style-type: none"> <li>Press to toggle eco mode on/off</li> </ul>
5 Fan buttons	<ul style="list-style-type: none"> <li>Indicates current fan setting—button will light up orange when selected</li> </ul>
6 Flip-down door	<ul style="list-style-type: none"> <li>Covers the system and fan buttons</li> </ul>
7 System mode buttons	<ul style="list-style-type: none"> <li>Buttons will light up according to the following: Heat–red, Cool–blue, Auto–orange, Off–orange</li> </ul>

## Available models



seeTemp  
wall control

## Model numbers

### seeTemp wall control

120V @ 50/60 Hz

24V~Class 2

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Fahrenheit model (°F)	LRD-WST-F- <b>XX</b> <sup>1</sup>
-----------------------	-----------------------------------

Celsius model (°C)	LRD-WST-C- <b>XX</b> <sup>1</sup>
--------------------	-----------------------------------

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Compatible with RadioRA 2 systems.

### seeTemp wall control packages

120V @ 50/60 Hz

24V~Class 2

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Fahrenheit package:	LR-HVAC-PKG-WH
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1 HVAC controller

1 seeTemp™ wall control (°F) (WH)

1 wireless wall-mount temperature sensor (SW)

1 wired return air duct sensor

Celsius package:	LR-HVAC-PKG-C-WH
------------------	------------------

1 HVAC controller

1 seeTemp™ wall control (°C) (WH)

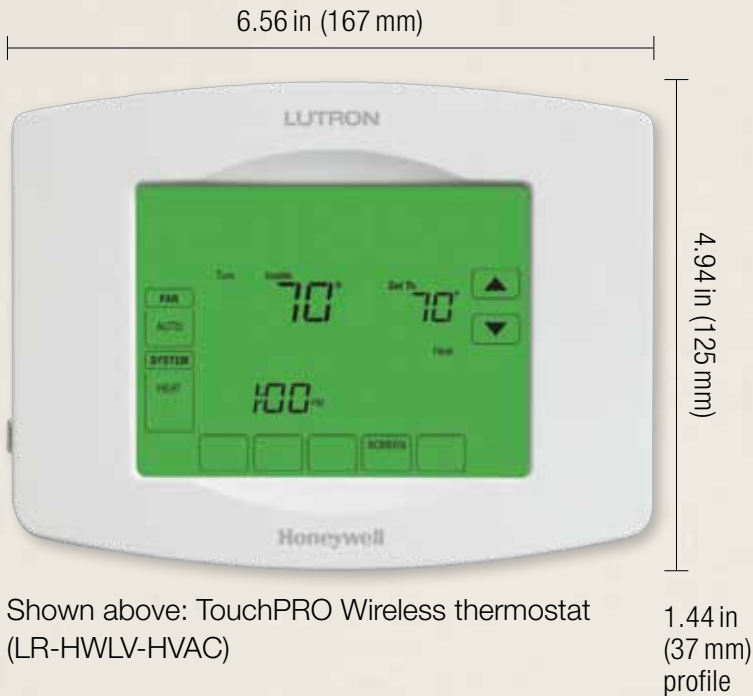
1 wireless wall-mount temperature sensor (SW)

1 wired return air duct sensor

---

Compatible with RadioRA 2 systems.

**XX**<sup>1</sup>: Gloss and Satin color codes, see pg. 185  
(Wallplates not included, order separately,  
see pg. 408)



## Features and capacities

- TouchPRO Wireless thermostat is designed by Honeywell® and utilizes Lutron reliable Clear Connect® Radio Frequency (RF) technology to allow heating and cooling HVAC systems to integrate seamlessly with Lutron systems
- Installs like a conventional thermostat
- Allows the ability to adjust heating and cooling systems any time of the day
- Features an intuitive touch screen interface
- TouchPro Wireless is compatible with seeTemp® wall controls, making it easy to add additional points of control
- Access energy-saving schedules using the Lutron Home Control+ App
- Control temperature for keypads, sensors, mobile devices, and third-party control systems

## Dimensions and mounting

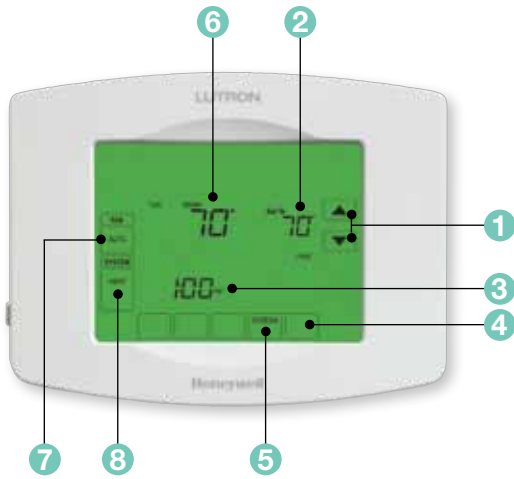
- Product dimensions:  
Width: 6.56 in (167 mm)  
Height: 4.94 in (125 mm)  
Profile: 1.44 in (37 mm)
- Mounts using included wall bracket

## Communication and wiring

- Requires RadioRA® 2 repeater
- Must be located within 30 ft (9 m) of a Lutron RF signal repeater
- Requires 24 V low-voltage common connection from the HVAC equipment or use of the included wiring module

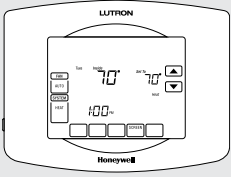
[Download specification submittal](#)  
[Download high resolution product image](#)

Explanation of features



Features	
1 Temperature adjustments	<ul style="list-style-type: none"> <li>• Press to adjust temperature settings</li> </ul>
2 Current set point	<ul style="list-style-type: none"> <li>• Displays temperature set point</li> </ul>
3 Current time	<ul style="list-style-type: none"> <li>• Displays current time</li> </ul>
4 More button	<ul style="list-style-type: none"> <li>• Before addressing to a Lutron system—press the More button to view the wireless connection screen</li> <li>• Also, the More button can be programmed to cycle through the replacement schedules for the filter pad, UV lamp, and humidity pad</li> </ul>
5 Screen cleaning button	<ul style="list-style-type: none"> <li>• Press to lock thermostat keypad for 30 seconds to clean screen</li> </ul>
6 Current inside temperature	<ul style="list-style-type: none"> <li>• Displays current inside temperature</li> </ul>
7 Fan setting button	<ul style="list-style-type: none"> <li>• Press to select fan operation</li> <li>• On—fan is always on</li> <li>• Auto—fan runs only when the heating or cooling system is on</li> </ul>
8 System setting button	<ul style="list-style-type: none"> <li>• Press to select system type</li> <li>• Heat—thermostat only controls the heating system</li> <li>• Cool—thermostat only controls the cooling system</li> <li>• Off —heating and cooling systems are off</li> <li>• Auto—thermostat automatically selects heating or cooling depending on indoor temperature.</li> <li>• Em Heat—thermostat controls emergency and auxiliary heat (only for heat pumps with auxiliary heat).</li> </ul>

## Available models



TouchPRO Wireless thermostat

## Model numbers

TouchPRO Wireless thermostat

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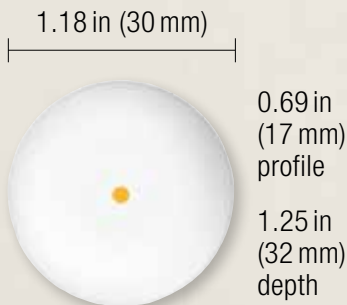
TouchPRO Wireless thermostat	LR-HWLV-HVAC
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Available exclusively in White.



Shown actual size: EcoSystem IR remote control in White (C-FLRC-WH)



Shown actual size: EcoSystem ceiling-mount IR receiver in White (EC-IR-WH)

[Download specification submittal for IR receiver](#)  
[Download specification submittal for IR remote control](#)

### Features and capacities

- Remote control includes on/off, raise/lower and a favorite level button
- Using infrared (IR) technology, the remote control can adjust lights from minimum to maximum and set and recall a favorite light level
- Aim remote at IR receiver and press desired button
- Available in White (WH)

### Dimensions and mounting

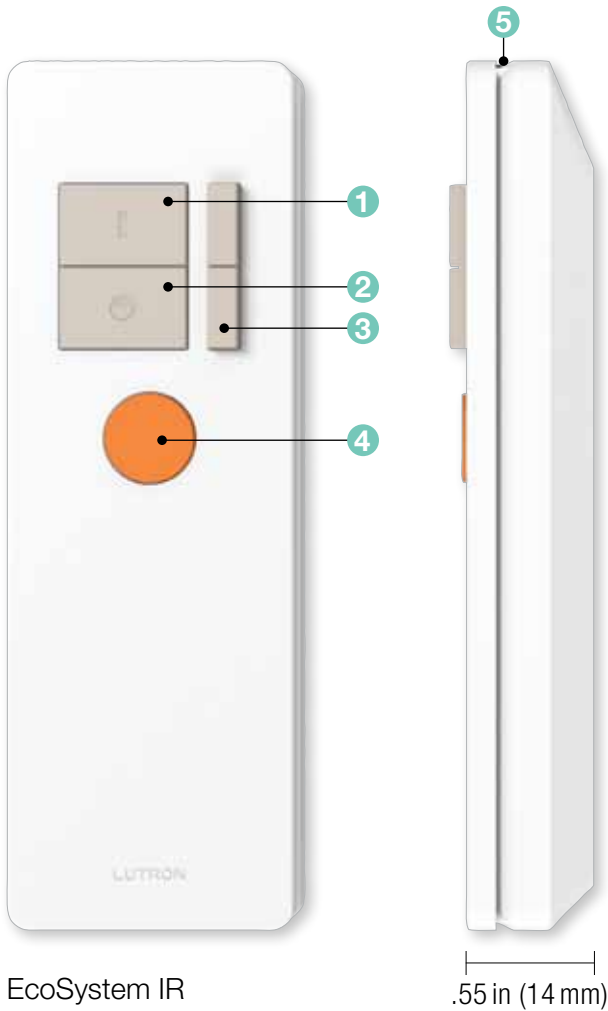
- IR remote control:  
 Width: 1.51 in (38 mm)  
 Height: 4.61 in (117 mm)  
 Depth: 0.55 in (14 mm)
- IR receiver:  
 Diameter: 1.18 in (30 mm)  
 Depth: 1.25 in (32 mm)  
 Profile: 0.69 in (17 mm)
- IR receiver mounts easily to ceiling tiles or fixtures with .38 in (10 mm) diameter hole; IR remote is handheld device

### Communication and wiring

- IR remote control uses IR signals to communicate with the IR receiver
- IR receiver responds to IR signals from up to 8 ft (2.5 m) away when mounted on a 10 ft (3 m) ceiling
- Total wire length from IR receiver to device must not exceed 100 ft (30 m)
- IR receiver - 20 V DC; IR remote control - battery (two AAA batteries included)
- IR receiver is designed to connect directly to an EcoSystem ballast or module (with sensor inputs), QS sensor module, or Energi Savr Node™ via low-voltage IEC PELV/NEC Class 2 wiring
- Uses one-half powered draw unit on the QS link when connected to the QS sensor module; power draw calculations are not needed for inputs connected directly to the Energi Savr Node or EcoSystem ballast/module
- IR receiver does not connect directly to QS link
- A QS system can have up to 100 QS devices; each EcoSystem IR receiver counts as one device toward the limit

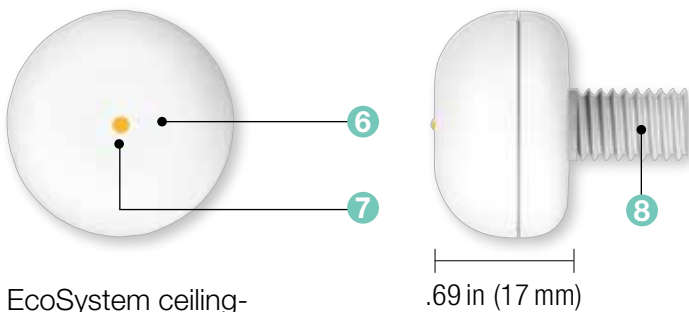


## Explanation of features



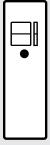
EcoSystem IR remote control

Features	
1 On button	• Lights brighten smoothly to full intensity
2 Off button	• Tap once—lights dim smoothly to off
3 Dimming rocker	• Raise/lower lights
4 Favorite level button	• Tap once to recall your favorite light level
5 IR transmitter	• Transmits signal line-of-sight to receiver
6 IR receiver	• Requires line-of-sight from IR remote control
7 Status indicator	• Flashes when IR signal is being received
8 Threaded mounting	• Use 3/8-16 nut (provided) for mounting



EcoSystem ceiling-mount IR receiver

## Available models



EcoSystem IR  
remote control



EcoSystem  
IR receiver

## Model numbers

### IR remote control

IR remote control	C-FLRC-WH
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### IR receiver

IR Receiver	EC-IR-WH
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Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem, GRAFIK Eye QS with DALI, Energi Savr Node™ with EcoSystem, Energi Savr Node for 0–10V/Energi Savr Node with Softswitch®, Energi Savr Node with EcoSystem (DIN-rail), Energi Savr Node for DALI (DIN-rail), Energi Savr Node for 0–10V/Energi Savr Node for Switching (DIN-rail), and Energi Savr Node Phase Adaptive (DIN-rail).



## Features and capacities

- Provides control of shades/drapes and lighting via infrared (IR) handheld remote controls by providing an access point
- Provides access to 16 scenes (plus off) in a GRAFIK Eye® system or 16 areas in an Energi Savr Node™ system
- Works with all Lutron handheld IR remote controls
- Allows IR integration via third-party IR remotes
- Integrates shading and lighting devices via a single IR device
- Simple to program and reconfigure as the needs of the space change
- LED provides feedback during programming and troubleshooting
- Available in White (WH)

## Dimensions and mounting

- Cord length: 7.25 in (184 mm)
- IR receiver diameter: 1.19 in (30 mm)
- IR receiver depth: 0.75 in (19 mm)
- Wiring harness can easily be configured to exit the side or out the back to accommodate a variety of mounting options
- Self adhesive mounting disc allows for secure mounting to any surface

## Communication and wiring

- Operating range: 30 ft (9m) line of sight
- Wiring flexibility allows the IR Eye to plug directly into shading devices or wire into the QS link via the included harness adapter
- Uses one power draw unit on the QS link
- A QS system can have up to 100 devices and 100 zones; each QS IR Eye counts as one device toward the limit

## Related components



IR remote control  
(available separately, see pg. 196)

[Download specification submittal](#)

## Model numbers

### QS IR Eye

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IR Eye	QSE-IR-WH
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Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, GRAFIK Eye QS with DALI, Energi Savr Node™ with EcoSystem, Energi Savr Node for 0–10V/Energi Savr Node with Softswitch®, Energi Savr Node with EcoSystem (DIN-rail), Energi Savr Node for DALI (DIN-rail), Energi Savr Node for 0–10V/Energi Savr Node for Switching (DIN-rail), and Energi Savr Node Phase Adaptive (DIN-rail).



Shown actual size: 4-scene  
IR remote control in White  
(GRX-IT-WH)

### Features and capacities

- Models available with 4- or 8-scene/control buttons
- Requires compatible infrared receiving device (wallstation/keypad, QS IR Eye, GRAFIK Eye® QS main unit, or wired daylight sensor)
- Off button turns all lights off
- Master raise/lower button brightens or dims all lighting zones
- Available in White (WH) and Black (BL)
- Three AAA alkaline batteries included
- Engraving available

### Dimensions and mounting

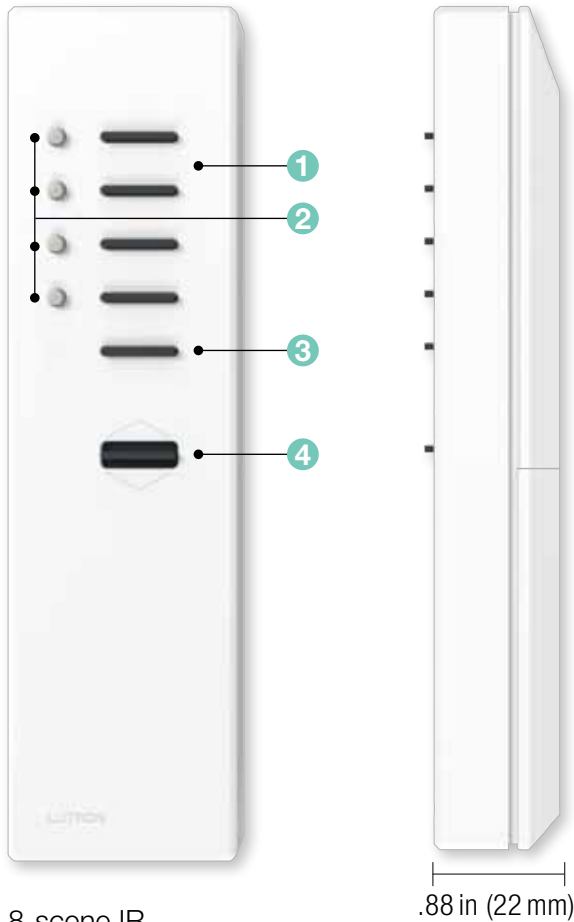
- Width: 1.50 in (38 mm)  
Height: 5.69 in (145 mm)  
Depth: 0.88 in (22 mm)
- Handheld control

### Communication and wiring

- IR remote control uses IR signals to communicate with the IR receiver
- Transmits signal up to 50ft (15 m) line-of-sight range to receiver

[Download specification submittal for GRX-IT](#)  
[Download specification submittal for GRX-8IT](#)  
[Download engraving sheet](#)

Explanation of features



8-scene IR remote control

Features	
1 Preset buttons (scenes 1-4)	• Models available with 1–4 scene buttons
2 Preset buttons (scenes 5-8)	• Models available with an additional 5–8 scene buttons
3 Off button	• Turns all lights off
4 Master raise/lower buttons	• Brightens/dims all lighting zones

## Available models



4-scene



8-scene

## Model numbers

### IR remote control

4-scene GRX-IT-**XX**<sup>1</sup>-**E**<sup>1</sup>

8-scene GRX-8IT-**XX**<sup>1</sup>-**E**<sup>1</sup>

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, RadioRA® 2, and Energi Savr Node™ systems.

**XX**<sup>1</sup>: White (WH) or Black (BL)

**E**<sup>1</sup>: Engraving form required. If engraving not desired, omit "E".



Shown actual size: non-insert style seeTouch 5-button keypad with raise/lower in White (QSWS2-5BRLN-WH)

### Features and capacities

- Available with 1–7 buttons in insert and non-insert styles
- Standard models available in 14 button configurations and 41 color options; custom models also available
- Large, backlit, rounded buttons are easy to use
- Backlit buttons with engraving make it easy to find and operate wallstation in low-light conditions
- Each keypad includes two contact closures on the back
- For information on engraving, text symbols and backlit buttons/backlit text, see pgs. 433-434
- Coordinating Architectural or Claro® wallplates may be included depending on finish, see pgs. 200-201 for further information
- Multi-gang wallplates available; up to 6-gang, see pg. 409-410
- Buttons can be used for scene recall, zone toggle, zone lockout, fine tuning, panic, sequencing, partitioning, and shade control
- Dual button configurations allow keypad to function as two independently programmable controllers
- Models available with group control settings for a single shade or multiple shades

### Dimensions and mounting

- Width: 2.75 in (70 mm)  
Height: 4.56 in (116 mm)  
Depth: 1.06 in (27 mm)  
Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

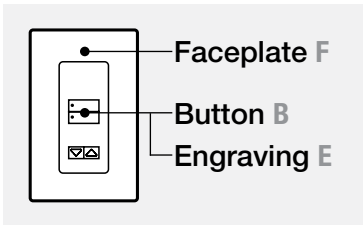
### Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication on the QS link
- A QS system can have up to 100 QS devices; each seeTouch QS keypad counts as one device toward the limit
- Uses one power draw unit on the QS link

[Download specification submittal](#)  
[Download high resolution product image](#)  
[Download engraving sheet \(Architectural matte and metal finishes\)](#)  
[Download engraving sheet \(Satin finishes\)](#)



## Available finishes



Use **BOLD** color code in model number (Example: QSW2-2BN-**SW**)

**Satin finishes** (Available for insert style keypads; coordinating **faceplates ordered separately**)



**SW**  
Snow F, B  
Gray E



**LS**  
Limestone F  
Gray B  
White E



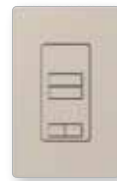
**BI**  
Biscuit F, B  
Gray E



**ES**  
Eggshell F, B  
Gray E



**PD**  
Palladium F  
Gray B  
White E



**TP**  
Taupe F, B  
Gray E



**ST**  
Stone F  
Gray B  
White E



**BG**  
Bluestone F  
Gray B  
White E



**PL**  
Plum F  
Taupe B  
Gray E



**SG**  
Sea Glass F  
Gray B  
White E



**TQ**  
Turquoise F  
Gray B  
White E



**GS**  
Goldstone F  
Ivory B  
Gray E



**DS**  
Desert Stone F  
Taupe B  
Gray E



**GB**  
Greenbriar F  
Gray B  
White E



**MS**  
Mocha Stone F  
Taupe B  
Gray E



**TC**  
Terracotta F  
Taupe B  
Gray E



**SI**  
Sienna F  
Brown B  
White E



**HT**  
Hot F  
Taupe B  
Gray E



**MR**  
Merlot F  
Taupe B  
Gray E



**MN**  
Midnight F, B  
Gray E

Bold color code indicates faceplate color. Models include button kit in coordinating colors as shown.

Text engraving color varies by button color. Lighter colored buttons use gray text and darker colored buttons use white text. Visit [www.lutron.com/engraving](http://www.lutron.com/engraving) for further information.

**Architectural matte finishes** (Available for insert and non-insert style keypads; coordinating faceplates included)



**WH**  
White F, B  
Gray E



**LA**  
Light Almond F, B  
Gray E



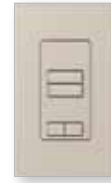
**AL**  
Almond F, B  
Gray E



**BE**  
Beige F, B  
Gray E



**IV**  
Ivory F, B  
Gray E



**TP**  
Taupe F, B  
(non-insert only)  
Gray E



**GR**  
Gray F, B  
White E



**BR**  
Brown F, B  
White E



**BL**  
Black F, B  
White E

**Architectural metal finishes** (Available for insert and non-insert style keypads; coordinating faceplates included)



**BN**  
Bright Nickel F  
Black B  
White E



**BC**  
Bright Chrome F  
Black B  
White E



**CLA**  
Clear Anodized Aluminum F  
Black B  
White E



**SC**  
Satin Chrome F  
Black B  
White E



**SN**  
Satin Nickel F  
Black B  
White E



**QZ**  
Antique Bronze F  
Black B  
White E



**BB**  
Bright Brass F  
Black B  
White E



**BRA**  
Brass Anodized Aluminum F  
Black B  
White E



**SB**  
Satin Brass F  
Black B  
White E

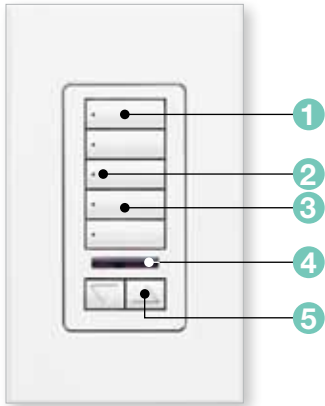


**QB**  
Antique Brass F  
Black B  
White E



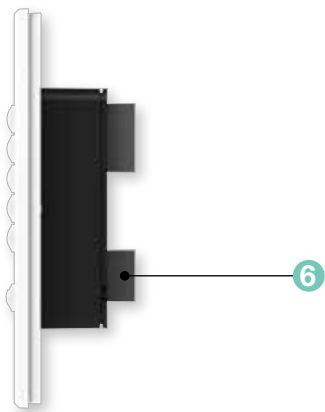
**BLA**  
Black Anodized Aluminum F  
Black B  
White E

## Explanation of features



Insert style 5-button seeTouch QS keypad with IR receiver and raise/lower

.31 in 1.09 in  
(8 mm) (28 mm)

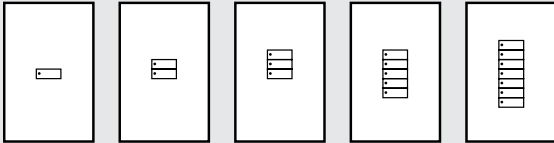


### Features

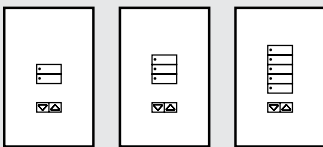
<p><b>1</b> Buttons</p>	<ul style="list-style-type: none"> <li>• Available with 1–7 scene preset options</li> <li>• Can also provide zone, partitioning, sequencing, or shade control, and other features</li> </ul>
<p><b>2</b> Status LEDs</p>	<ul style="list-style-type: none"> <li>• Show which keypad button has been activated</li> </ul>
<p><b>3</b> Backlit buttons</p>	<ul style="list-style-type: none"> <li>• Easy to read and use in low-light conditions, can be disabled on a button by button basis</li> </ul>
<p><b>4</b> Infrared (IR) receiver (optional)</p>	<ul style="list-style-type: none"> <li>• Offers convenient control of lights/shades from an IR remote control, see p. 196</li> </ul>
<p><b>5</b> Raise/lower buttons</p>	<ul style="list-style-type: none"> <li>• Brightens/dims assigned lighting or raises/lowers assigned shades</li> </ul>
<p><b>6</b> Dual contact closure inputs</p>	<ul style="list-style-type: none"> <li>• Dual contact closure inputs (CCI) programmable</li> </ul>

## Available models

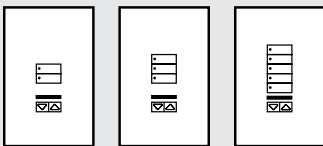
(Available in insert and non-insert styles, non-insert style shown)



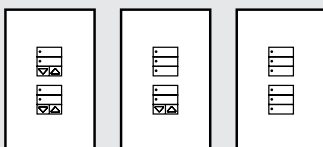
1, 2, 3, 5, 7-button



2, 3, 5-button with raise/lower  
(model numbers on following page)



2, 3, 5-button with infrared and raise/lower  
(model numbers on following page)



Dual configurations  
(model numbers on following page)

## Model numbers

### Keypads

#### 1-button

Non-insert style	QSW2-1BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-1BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 2-button

Non-insert style	QSW2-2BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-2BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button

Non-insert style	QSW2-3BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-3BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 5-button

Non-insert style	QSW2-5BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-5BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 7-button

Non-insert style	QSW2-7BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-7BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

**XX**<sup>1</sup>: Architectural matte and metal color codes, see pg. 201

**XX**<sup>2</sup>: Architectural matte, metal and Satin Colors® codes, see pgs. 200-201  
(Coordinating faceplates not included with Satin colors, order separately, see pg. 408)

**EEE**<sup>1</sup>: Engraving codes, see pgs. 436-437

## Model numbers

### Keypads with raise/lower

#### 2-button with raise/lower

Non-insert style	QSW2-2BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-2BRLI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button with raise/lower

Non-insert style	QSW2-3BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-3BRLI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 5-button with raise/lower

Non-insert style	QSW2-5BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-5BRLI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

### Keypads with IR and raise/lower

#### 2-button with IR and raise/lower

Non-insert style	QSW2-2BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-2BRLIRI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button with IR and raise/lower

Non-insert style	QSW2-3BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-3BRLIRI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 5-button with IR and raise/lower

Non-insert style	QSW2-5BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-5BRLIRI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Compatible with GRAFIK Eye QS and Energi Savr Node systems.

### Dual configuration keypads

#### Dual 2-button with raise/lower

Non-insert style	QSW2-2RLDN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-2RLDI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### Dual 3-button and 2-button with raise/lower

Non-insert style	QSW2-1RLDN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-1RLDI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### Dual 3-button

Non-insert style	QSW2-3BDN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2-3BDI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Compatible with GRAFIK Eye QS and Energi Savr Node systems.

**XX**<sup>1</sup>: Architectural matte and metal color codes, see pg. 201

**XX**<sup>2</sup>: Architectural matte, metal and Satin color codes, see pgs. 200-201

**EEE**<sup>1</sup>: Engraving codes, see pgs. 436-437 (Faceplates ship with matte and metal finishes, but should be ordered separately for satin finish keypads)

## Model numbers

### Faceplate kits

#### 1-button

Non-insert style	QSW2R-1BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-1BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 2-button

Non-insert style	QSW2R-2BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-2BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button

Non-insert style	QSW2R-3BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-3BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 5-button

Non-insert style	QSW2R-5BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-5BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 7-button

Non-insert style	QSW2R-7BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-7BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Includes faceplate, buttons and insert.  
(when applicable)

Compatible with seeTouch QS keypads.

### Faceplate kits with raise/lower

#### 2-button with raise/lower

Non-insert style	QSW2R-2BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-2BRLI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button with raise/lower

Non-insert style	QSW2R-3BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-3BRLI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 5-button with raise/lower

Non-insert style	QSW2R-5BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-5BRLI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Includes faceplates, buttons and insert.  
(when applicable)

Compatible with seeTouch QS keypads.

### Faceplate kits with infrared (IR) receiver and raise/lower

#### 2-button with IR receiver and raise/lower

Non-insert style	QSW2R-2BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-2BRLIRI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button with IR receiver and raise/lower

Non-insert style	QSW2R-3BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-3BRLIRI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 5-button with IR receiver and raise/lower

Non-insert style	QSW2R-5BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-5BRLIRI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Includes faceplates, buttons and insert.  
(when applicable)

Compatible with seeTouch QS keypads.

IR faceplate kits require IR keypad with IR functionality.

### Dual faceplate kits

#### Dual 2-button with raise/lower

Non-insert style	QSW2R-2RLDN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-2RLDI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### Dual 3-button and 2-button with raise/lower

Non-insert style	QSW2R-1RLDN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-1RLDI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### Dual 3-button

Non-insert style	QSW2R-3BDN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2R-3BDI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Includes faceplates, buttons and insert.  
(when applicable)

Compatible with seeTouch QS keypads.

**XX**<sup>1</sup>: Architectural matte and metal color codes, see pg. 201

**XX**<sup>2</sup>: Architectural matte, metal and Satin color codes, see pgs. 200-201

**EEE**<sup>1</sup>: Engraving codes, see pgs. 436-437  
(Faceplates ship with matte and metal finishes, but should be ordered separately for satin finish keypads)

## Model numbers

### Button kits

#### 1-button

Non-insert style	QSW2B-1BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-1BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 2-button

Non-insert style	QSW2B-2BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-2BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button

Non-insert style	QSW2B-3BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-3BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 5-button

Non-insert style	QSW2B-5BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-5BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 7-button

Non-insert style	QSW2B-7BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-7BI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Compatible with seeTouch QS keypads.

### Button kits with raise/lower

#### 2-button with raise/lower

Non-insert style	QSW2B-2BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-2BRLI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button with raise/lower

Non-insert style	QSW2B-3BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-3BRLI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 5-button with raise/lower

Non-insert style	QSW2B-5BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-5BRLI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Compatible with seeTouch QS keypads.

### Button kits with IR and raise/lower

#### 2-button with IR receiver and raise/lower

Non-insert style	QSW2B-2BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-2BRLIRI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button with IR receiver and raise/lower

Non-insert style	QSW2B-3BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-3BRLIRI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### 5-button with IR receiver and raise/lower

Non-insert style	QSW2B-5BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-5BRLIRI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Compatible with seeTouch QS keypads.

IR button kits require IR keypad with IR functionality.

### Dual configuration button kits

#### Dual 3-button and 2-button with raise/lower

Non-insert style	QSW2B-1RLDN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-1RLDI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### Dual 2-button with raise/lower

Non-insert style	QSW2B-2RLDN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-2RLDI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

#### Dual 3-button

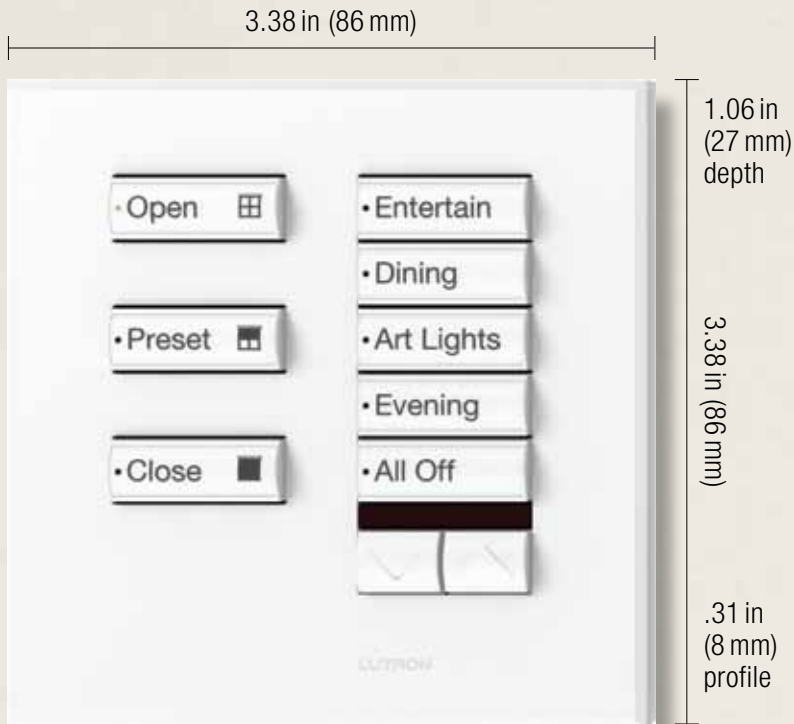
Non-insert style	QSW2B-3BDN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSW2B-3BDI- <b>XX</b> <sup>2</sup> - <b>EEE</b> <sup>1</sup>

Compatible with seeTouch QS keypads.

**XX**<sup>1</sup>: Limited architectural matte finishes, see pg. 201 for corresponding button colors

**XX**<sup>2</sup>: Limited gloss, architectural matte and satin color finishes, see pg. 200 for corresponding button colors

**EEE**<sup>1</sup>: Engraving codes, see pgs. 436-437



Shown actual size: Non-insert style International seeTouch 8-button keypad with IR and raise/lower in White (QSWE-8BRLIRN-AW)

### Features and capacities

- Available with 2-10 buttons in insert and non-insert styles
- Standard models available in 10-button configurations and 12 color options; custom models available
- Large rounded buttons are easy to use
- Each keypad includes two built-in contact closure inputs on the back
- Backlit buttons with optional engraving make it easy to find and operate wallstation in low light conditions
- For information on engraving, symbols and backlit buttons/backlit text, see pgs. 433-434
- Buttons can be used for scene recall, zone toggle, zone lockout, fine tuning, panic, sequencing, partitioning, and shade control
- Coordinating faceplate included
- Models available with group control settings for a single shade or multiple shades

### Dimensions and mounting

- Product dimensions:  
Width: 3.38 in (86 mm)  
Height: 3.38 in (86 mm)  
Depth: 1.06 in (27 mm); Profile: 0.31 in (8 mm)
- Typical backbox dimensions:  
Width: 3.00 in (75 mm)  
Height: 3.00 in (75 mm)  
Depth: 1.40 in (35.6 mm)
- May be mounted in a 1.40 in round backbox, used in Europe

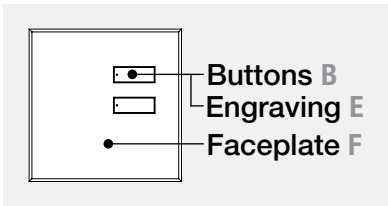
### Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication on the QS link
- A QS system can have up to 100 QS devices; each international seeTouch QS keypad counts as one device towards the limit
- Uses one power draw unit on the QS link

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[Download engraving sheet](#)



## Available finishes



Use **BOLD** color code in model number (Example: QWS2B-2BN-**AW**)

### Matte finishes



**AW**  
Arctic White  
**F, B**  
Gray **E**

### Metallic finishes



**AR**  
Argentum **F**  
Black **B**  
White **E**



**MC**  
Mica **F**  
Black **B**  
White **E**

### Metal finishes



**SN**  
Satin Nickel **F**  
Black **B**  
White **E**



**BN**  
Bright Nickel **F**  
Black **B**  
White **E**



**SB**  
Satin Brass **F**  
Black **B**  
White **E**



**BB**  
Bright Brass **F**  
Black **B**  
White **E**



**SC**  
Satin Chrome **F**  
Black **B**  
White **E**



**BC**  
Bright Chrome **F**  
Black **B**  
White **E**



**QZ**  
Antique Bronze **F**  
Black **B**  
White **E**



**QB**  
Antique Brass **F**  
Black **B**  
White **E**

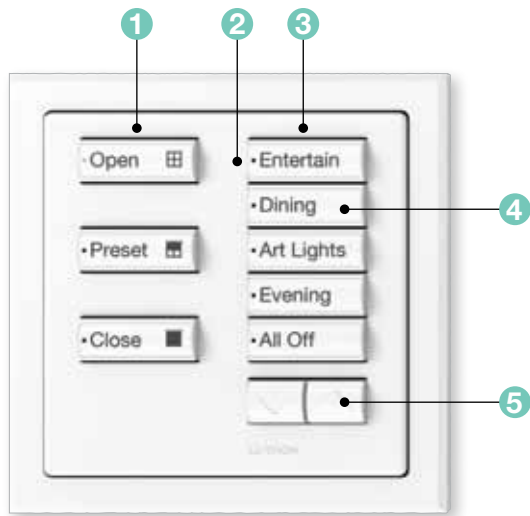


**AU**  
Gold Plated **F**  
Black **B**  
White **E**

Bold color code indicates faceplate color. Models include button kit in coordinating colors as shown.

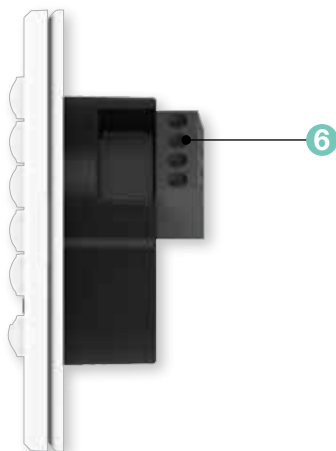
Text engraving color varies by button color. Lighter colored buttons use gray text and darker colored buttons use white text. Visit [www.lutron.com/engraving](http://www.lutron.com/engraving) for further information.

### Explanation of features



Insert style 8-button International seeTouch QS wallstation with raise/lower

.31 in (8 mm) | 1.09 in (28 mm)

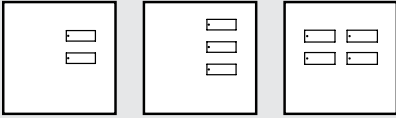


Features	
1	<p>Preset buttons for shades*</p> <ul style="list-style-type: none"> <li>• Enable user to control one shade or group of shades</li> </ul>
2	<p>Status LEDs</p> <ul style="list-style-type: none"> <li>• Show which keypad button has been activated</li> </ul>
3	<p>Preset buttons for lights*</p> <ul style="list-style-type: none"> <li>• Enable user to control a light or group of lights</li> </ul>
4	<p>Backlit buttons</p> <ul style="list-style-type: none"> <li>• Easy to read and use in low-light conditions; can optionally be disabled on a button-by-button basis</li> </ul>
5	<p>Raise/lower buttons</p> <ul style="list-style-type: none"> <li>• Brighten/dim all assigned lighting or raise/lower all assigned shades</li> </ul>
6	<p>Dual contact closure inputs</p> <ul style="list-style-type: none"> <li>• Dual contact closure inputs (CCI) programmable</li> </ul>

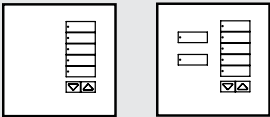
\* Diagram shows custom engraving. Note that buttons can be alternately programmed to perform other functions such as zone control, partitioning, sequencing, and others.

## Available models

(Available in insert and non-insert styles, non-insert style shown)



2, 3, 4-button



5, 7-button with raise/lower



8, 10-button with raise/lower



5, 8-button with IR and raise/lower

Dual 3-button with raise/lower

## Model numbers

### Wallstations

#### 2-button

Non-insert style	QSWE-2BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-2BI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button

Non-insert style	QSWE-3BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-3BI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 4-button

Non-insert style	QSWE-4BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-4BI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

### Wallstations with raise/lower

#### 5-button with raise/lower

Non-insert style	QSWE-5BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-5BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 7-Button with raise/lower

Non-insert style	QSWE-7BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-7BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 8-button with raise/lower

Non-insert style	QSWE-8BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-8BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 10-button with raise/lower

Non-insert style	QSWE-10BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-10BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Compatible with GRAFIK Eye QS and Energi Savr Node systems.

**XX**<sup>1</sup>: Matte, metallic and metal color codes, see pg.208

**EEE**<sup>1</sup>: Engraving codes, see pgs.436-437

## Model numbers

### Wallstations with infrared (IR) receiver and raise/lower

#### 5-button with IR receiver and raise/lower

Non-insert style	QSWE-5BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-5BRLIRI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 8-button with IR receiver and raise/lower

Non-insert style	QSWE-8BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-8BRLIRI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

### Dual wallstations with raise/lower

#### Dual wallstation with 3-button and raise/lower

Non-insert style	QSWE-6BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWE-6BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Compatible with GRAFIK Eye® QS and Energi Savr Node systems.

### Faceplate kits

#### 2-button

Non-insert style	QSWER-2BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-2BI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button

Non-insert style	QSWER-3BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-3BI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 4-button

Non-insert style	QSWER-4BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-4BI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Includes faceplate, buttons and insert (when applicable).

Compatible with International seeTouch QS wallstations.

**XX**<sup>1</sup>: Matte, metallic and metal color codes, see pg. 208

**EEE**<sup>1</sup>: Engraving codes, see pgs. 436-437

### Faceplate kits with raise/lower

#### 5-button with raise/lower

Non-insert style	QSWER-5BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-5BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 7-button with raise/lower

Non-insert style	QSWER-7BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-7BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 8-button with raise/lower

Non-insert style	QSWER-8BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-8BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 10-button with raise/lower

Non-insert style	QSWER-10BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-10BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Includes faceplate, buttons and insert (when applicable).

Compatible with International seeTouch QS wallstations.

### Faceplate kits with IR and raise/lower

#### 5-button with IR receiver and raise/lower

Non-insert style	QSWER-5BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-5BRLIRI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 8-button with IR receiver and raise/lower

Non-insert style	QSWER-8BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-8BRLIRI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Includes faceplate, buttons and insert (when applicable).

Compatible with International seeTouch QS wallstations. IR faceplate kits require IR keypads with IR functionality.

### Dual faceplate kits

#### Dual 3-button with raise/lower

Non-insert style	QSWER-6BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWER-6BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Includes faceplate, buttons and insert (when applicable).

Compatible with International seeTouch QS wallstations.

## Model numbers

### Button kits

#### 2-button

Non-insert style	QSWEB-2BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-2BI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 3-button

Non-insert style	QSWEB-3BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-3BI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 4-button

Non-insert style	QSWEB-4BN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-4BI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Compatible with International seeTouch QS wallstations.

### Button kits with raise/lower

#### 5-button with raise/lower

Non-insert style	QSWEB-5BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-5BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 7-button with raise/lower

Non-insert style	QSWEB-7BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-7BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 8-button with raise/lower

Non-insert style	QSWEB-8BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-8BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 10-button with raise/lower

Non-insert style	QSWEB-10BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-10BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Compatible with International seeTouch QS wallstations.

### Button kits with infrared (IR) receiver and raise/lower\*

#### 5-button with IR receiver and raise/lower

Non-insert style	QSWEB-5BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-5BRLIRI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

#### 8-button with IR receiver and raise/lower

Non-insert style	QSWEB-8BRLIRN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-8BRLIRI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Compatible with International seeTouch QS wallstations. IR button kits require IR keypads with IR functionality.

### Button kits for dual configurations

#### Dual wallstation with 3-button and 3-button with raise/lower

Non-insert style	QSWEB-6BRLN- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>
Insert style	QSWEB-6BRLI- <b>XX</b> <sup>1</sup> - <b>EEE</b> <sup>1</sup>

Compatible with International seeTouch QS wallstations.

**XX**<sup>1</sup>: Available in Arctic White (AW) and Black (BL)

**EEE**<sup>1</sup>: Engraving codes, see pgs. 436-437



Shown actual size: QS keyswitch in White (QSWS2-KSN3MOC-WH)

### Features and capacities

- Provides key-only access to QS lighting controls, ideal for public spaces
- Recalls preset light levels for two scenes
- Allows fine-tuning (raise/lower level) of a zone or group of zones
- Enables/disables timeclock, occupancy sensors, daylight sensors and panic mode
- Starts/stops afterhours
- Opens/closes a shade or group of shades
- Coordinating faceplate included
- Start and stop automatic sequencing
- Zone control
- Coordinating faceplate included

### Dimensions and mounting

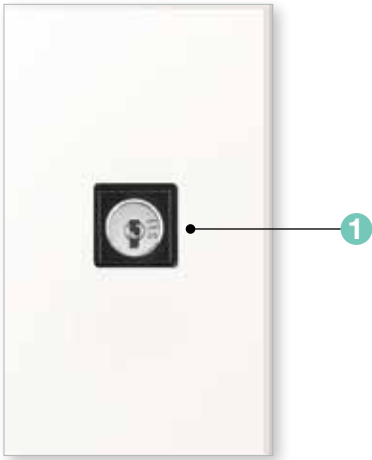
- Width: 2.72in (69mm)
- Height: 4.57 in (116 mm)
- Depth: 1.77 in (45 mm)
- Profile: 0.28in (7 mm)
- Mounts in a standard 1-gang U.S. backbox

### Communication and mounting

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication via the QS link
- A QS system can have up to 100 QS devices; each QS key switch counts as one device towards the limit
- Uses one power draw unit on the QS link

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## Explanation of features



Non-insert style  
QS keyswitch

### Features

1 Keyswitch	• Provides key-only access to systems
-------------	---------------------------------------

## Available finishes

Use **BOLD** color code in model number (Example: QWS2-KS31MOC-**WH**)

### Architectural matte finishes



**WH**  
White



**LA**  
Light Almond



**AL**  
Almond



**IV**  
Ivory



**BE**  
Beige



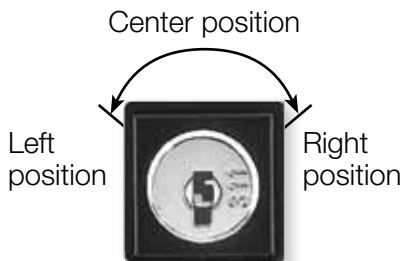
**GR**  
Gray



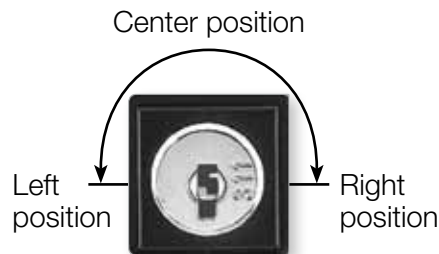
**BR**  
Brown



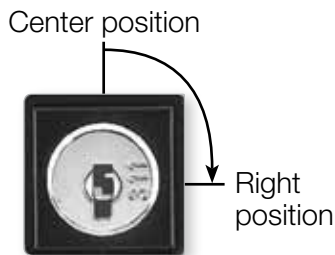
**BL**  
Black



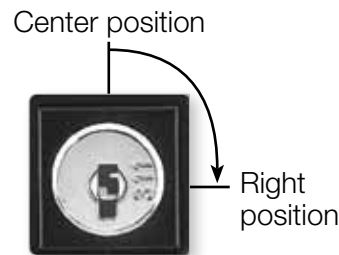
**3MOC:** 3-position momentary;  
center position key removal  
 $\pm 45^\circ$  travel



**3MAC:** 3-position Maintained;  
center position key removal  
 $\pm 90^\circ$  travel



**2MAC:** 2-position Maintained;  
center position key removal  
 $\pm 90^\circ$  travel

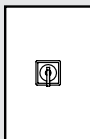


**2MAA:** 2-position maintained;  
any position key removal  
 $\pm 90^\circ$  travel



## Available models

(Available in insert and non-insert styles, non-insert style shown)



Keyswitch

## Model numbers

### Keyswitch

#### 3-position momentary; center position key removal

Non-insert style	QSW2-KS3NMOC- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>
Insert style	QSW2-KS3IMOC- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>

#### 3-position maintained; center position key removal

Non-insert style	QSW2-KS3NMAC- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>
Insert style	QSW2-KS3IMAC- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>

#### 2-position maintained; center position key removal

Non-insert style	QSW2-KS2NMAC- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>
Insert style	QSW2-KS2IMAC- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>

#### 2-position maintained; any position key removal

Non-insert style	QSW2-KS2NMAA- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>
Insert style	QSW2-KS2IMAA- <b>XX</b> <sup>1</sup> - <b>E</b> <sup>1</sup>

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

**XX**<sup>1</sup>: Architectural matte color codes, see pg.215 (1-gang wallplate included)

**E**<sup>1</sup>: Engraving form required. If engraving not desired, omit “E”.



Shown above: Pico Wired control in White (PX-2B-GWH-I01) in a 1-gang Claro wallplate (CW-1-WH) with a Pico faceplate adapter (PICO-FP-ADAPT) (sold separately)

### Features and capacities

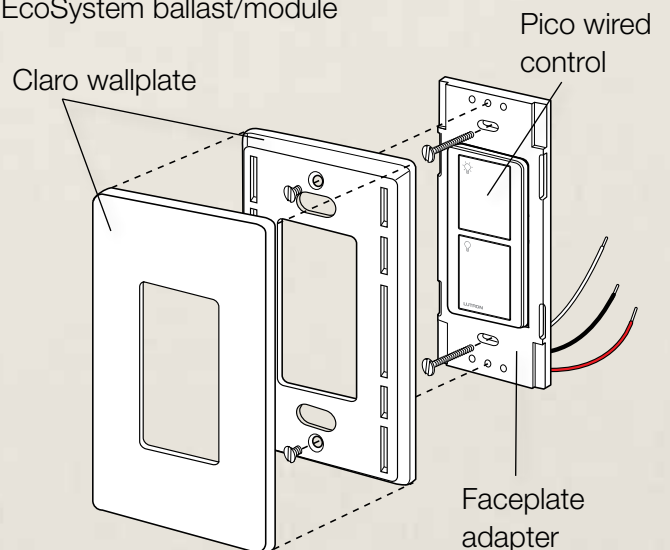
- Control individual fixture or group of fixtures
- 4-button configurations available with options for preset and raise/lower buttons
- Intuitive icon labeling
- Coordinating Claro® wallplates and Pico faceplate adapter available separately

### Dimensions and mounting

- Width: 2.94 in (75 mm);  
Height: 4.69 in (119 mm);  
Depth: 1.98 in (50 mm)  
Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

### Communication and wiring

- Total wire length from control to device must not exceed 500 ft (153m)
- Designed to connect directly to an EcoSystem® ballast or module (with sensor inputs), QS sensor module or Energi Savr Node™ module via low-voltage IEC PELV/NEC Class 2 wiring
- Does not connect directly to QS link
- The QS link can have up to 100 keypads, each Pico wired control counts as one keypad toward the limit
- Uses one half power draw unit on the QS link when connected to the QS sensor module; power draw calculations are not needed for inputs connected directly to the Energi Savr Node module or EcoSystem ballast/module



[Download specification submittal](#)  
[Download engraving sheet for faceplates](#)

## Available finishes

Use **BOLD** color code in model number (Example: PX-2B-GWH-I01)

### Gloss finishes

(available for most button configurations)



**WH**  
White



**WG**  
White/Gray



**IV**  
Ivory



**LA**  
Light Almond



**BL**  
Black

### White/Gray color palette in all models



2-button Light  
(I01) labeling



2-button with  
raise/lower  
Light (I01)  
labeling

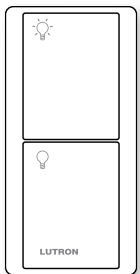


3-button  
Light (I01)  
labeling

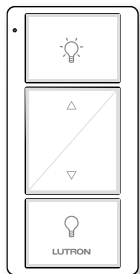


3-button with  
raise/lower  
Light (I01)  
labeling

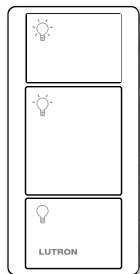
### Icon labeling by model



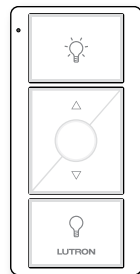
2-button Light  
(I01) labeling



2-button with  
raise/lower  
Light (I01)  
labeling

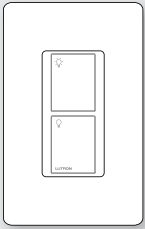


3-button  
Light (I01)  
labeling

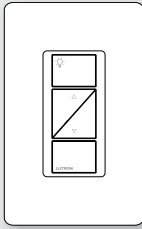


3-button with  
raise/lower  
Light (I01)  
labeling

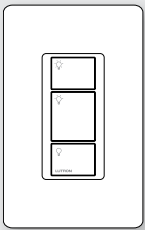
### Available models



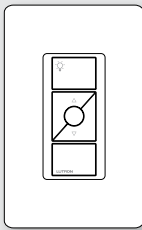
2-button



2-button  
with raise/lower



3-button  
with preset



3-button with  
preset and  
raise/lower

### Model numbers

#### **Pico wired control**

2-button	PX-2B-G <b>XX</b> <sup>1</sup> -I01
2-button with raise/lower	PX-2BRL-G <b>XX</b> <sup>1</sup> -I01
3-button	PX-3B-G <b>XX</b> <sup>1</sup> -I01
3-button with raise/lower	PX-3BRL-G <b>XX</b> <sup>1</sup> -I01

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

**XX**<sup>1</sup>: Available in limited gloss finishes, White/ Gray (WG), White (WH), Light Almond (LA), Ivory (IV), and Black (BL)



Shown actual size: 4-button EcoSystem wallstation in White (CC-4BRL-WH) in a 1-gang Claro wallplate (CW-1-WH) (Order separately)

### Features and capacities

- 4-button control with raise/lower rocker
- 4 presets in addition to All On and All Off
- Built-in infrared receiver
- Multi-color LED to indicate button presses, programming mode and reception of infrared signals
- Available in 4 finishes
- Engraving on faceplate available
- Coordinating Claro® wallplates available separately

### Dimensions and mounting

- Width: 2.94 in (75 mm)  
Height: 4.69 in (119 mm)  
Depth: 1.45 in (37 mm)  
Profile: .31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

### Communication and wiring

- Total wire length from control to device must not exceed 100ft (30m)
- Designed to connect directly to an EcoSystem ballast or module (with sensor inputs), QS sensor module or Energi Savr Node module via low-voltage IEC PELV/NEC Class 2 wiring
- Does not connect to QS link directly
- The QS link can have up to 100 keypads; each EcoSystem wallstation counts as one keypad toward the limit
- Uses one power draw unit on the QS link when connected to the QS sensor module; power draw calculations are not needed for inputs connected directly to the Energi Savr Node module or EcoSystem ballast/module

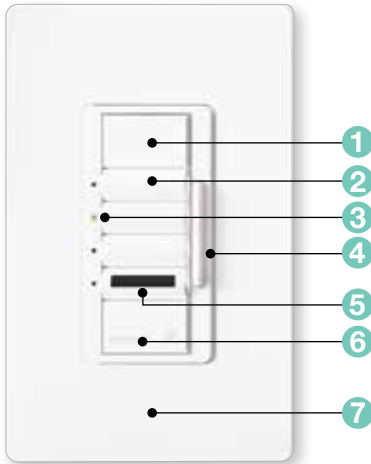
### Related components



IR transmitter  
(available separately, see pg. 196)

[Download specification submittal](#)  
[Download engraving sheet \(faceplate\)](#)

### Explanation of features



4-button EcoSystem wallstation

.31 in (8 mm)    1.25 in (32 mm)



#### Features

<b>1</b> On button	• All On button (programmable)
<b>2</b> Preset buttons	• Four buttons each recall lighting presets
<b>3</b> Status LEDs	• Indicate control is functioning
<b>4</b> Dimming rocker	• Raise/lower lights
<b>5</b> Infrared receiver	• Allows wireless connectivity to handheld infrared remotes (maximum 10ft)
<b>6</b> Off button	• All Off button (programmable)
<b>7</b> Wallplate	• Lutron Claro wallplate (not included)

### Available finishes

#### Gloss finishes



**WH**  
White



**LA**  
Light Almond



**IV**  
Ivory



**BL**  
Black

## Available model

(Available as insert style only)



4-button

## Model numbers

### Wallstation

---

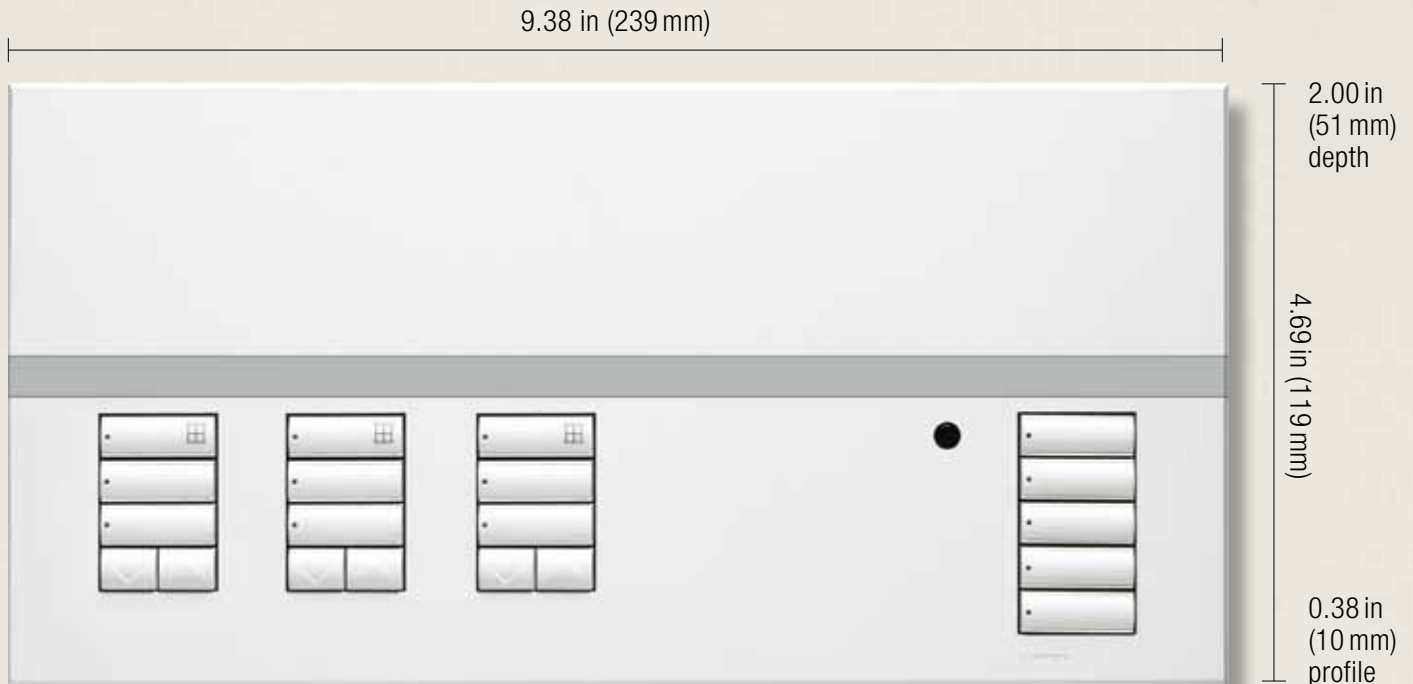
4-button with raise/lower	CC-4BRL- <b>XX</b> <sup>1</sup>
---------------------------	---------------------------------

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Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

**XX**<sup>1</sup>: Available in limited gloss finishes, White (WH), Light Almond (LA), Ivory (IV) and Black (BL)

Faceplates not included. Order separately, see pg. 408.



Shown above: QS timeclock  
(QSGR-TC-3S-WH-CPN5825)

### Features and capacities

- Energy-saving astronomic timeclock and direct shade control seamlessly integrate with Energi Savr Node™ systems
- Provides one contact closure input with power supply output
- 7 daily schedules available with 25 events per day maximum
- One available holiday schedule is programmable by date up to one year in advance
- Astronomic times are programmable by integral city database or by entering latitude and longitude; times automatically adjust throughout the year based on location
- Automatically adjusts for Daylight Saving Time (DST)
- Afterhours feature allow occupants to temporarily override timeclock events
- Allows set-up of shade presets utilizing buttons on control units

- 3 columns of shade control available; each column can be programmed to operate one shade or group of shades
- Available in White (WH)

### Dimensions and mounting

- Width: 9.38 in (239 mm)  
Height: 4.69 in (119 mm)  
Depth 2.00 in (51 mm)  
Profile: 0.38 in (10 mm)
- Mounts into a 4-gang U.S. backbox, 3.50in (89mm) deep; Lutron p/n 241-400

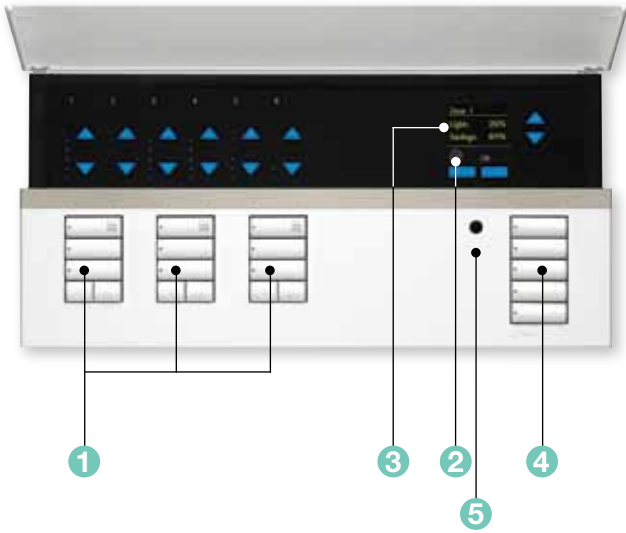
### Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication via the QS link
- Supplies three power draw units on the QS link
- Operating voltage: 120V~ @ 50/60Hz 150mA, 240V~ @ 50/60Hz 75mA
- A QS system can have up to 100 QS devices each QS timeclock counts as one device toward the limit

[Download specification submittal](#)



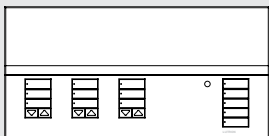
## Explanation of features



### Features

<p><b>1</b> Shade control buttons</p>	<ul style="list-style-type: none"> <li>• Each shade control has open, preset, close raise/lower</li> </ul>
<p><b>2</b> Astronomic timeclock</p>	<ul style="list-style-type: none"> <li>• Add up to 25 events per day/entire week, afterhours capabilities</li> </ul>
<p><b>3</b> Information display/user interface</p>	<ul style="list-style-type: none"> <li>• Timeclock information</li> </ul>
<p><b>4</b> Programming buttons</p>	<ul style="list-style-type: none"> <li>• Standard programming</li> </ul>
<p><b>5</b> USB port</p>	<ul style="list-style-type: none"> <li>• Advanced programming</li> </ul>

## Available models



QS timeclock

## Model numbers

### QS timeclock

---

QS timeclock	QSGR-TC-3S-WH-CPN5825
120 V~/240V~	

---

Compatible with Energi Savr Node™ system.

# Energy-saving sensors

Sensors detect motion, daylight and temperature to provide automatic, energy-saving control of lighting, window shading and other building systems.

The sensors addressed in this guide are specific to each country's voltage and frequency requirements. Please confirm that the products you have selected match the required voltages (pg. 458) and radio frequency (pg. 461) listed by country.

## Sensor options include:

- Occupancy/vacancy sensors
- Vacancy only sensors
- Daylight sensors
- Temperature sensors

## Wireless



### **Radio Powr Savr™ ceiling-mount occupancy/vacancy sensors**

pg. 228



### **Radio Powr Savr corner, hallway and wall-mount occupancy/vacancy sensors**

pg. 232



### **Radio Powr Savr ceiling-mount daylight sensors**

pg. 239



### **Wall-mount temperature sensor**

pg. 242



Wireless Radio Frequency (RF) communication



Infrared (IR) communication

## Wired



### Daylight sensor

pg. 244



### LOS-C series ceiling-mount occupancy sensor

pg. 247



### LOS-W series wall-mount occupancy sensor

pg. 253



### High-bay occupancy sensor

pg. 258

## Additional components



### Power packs (required for wired sensors)

pg. 260



### Infrared partition status sensor (IRPS)

pg. 261



For information on Maestro® wallbox occupancy/vacancy sensors with dimmers and switches, as well as LOS-S series wallbox sensors, refer to the Volume 1: Basic devices and single-space systems catalog (P/N 367-1746 REV A)



Shown above: Radio Powr Savr ceiling-mount wireless occupancy/vacancy sensor – 434MHz in White (LRF2-OCR2B-P-WH)

### Features and capacities

- Simple installation with no wiring
- Passive infrared (PIR) with exclusive Lutron XCT™ technology for fine motion detection
- Occupancy/vacancy has auto-on/auto-off, manual-on/auto-off or auto-on low light/auto-off control (lowlight not supported when connected to system via QS sensor module)
- Vacancy model has manual-on/auto-off control to meet California Title 24 section 119(j) requirements
- Timeout options include 1 minute, 5 minutes, 15 minutes, and 30 minutes
- 360° coverage
- Recommended for 8–12 ft (2.4–3.7 m) ceilings

- Multiple sensors can be added for extended coverage—refer to product specification submittals of receiving device to determine system limits
- For indoor use only, temperature: 32° F–104° F (0° C–40° C)
- Battery included; 10-year battery life design
- Available in White (WH)

### Dimensions and mounting

- Diameter: 3.57 in (91 mm)  
Depth: 1.13 in (29 mm)
- Mount within 60 ft (18 m) line-of-sight or 30 ft (9.1 m) through walls of the receiving devices
- Can be recess or surface mounted to solid or drop ceilings (recess mounting bracket P/N L-CMDPIRKIT, sold separately)

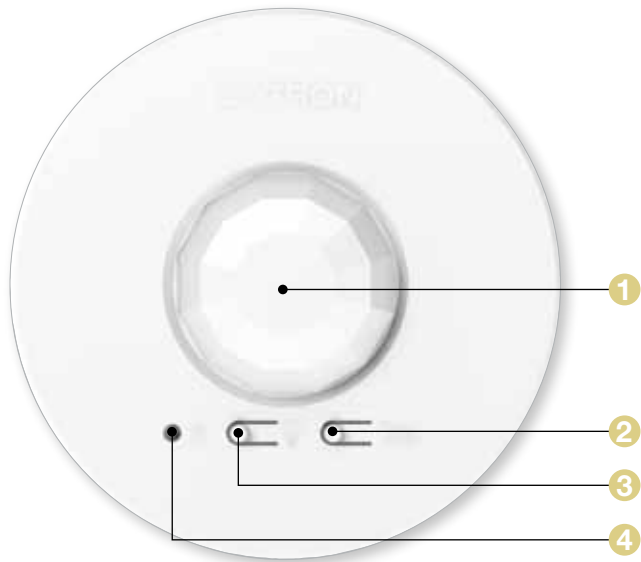
### Communication

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other Lutron wireless devices
- Models available for operation at 315 MHz, 434 MHz, 434 limited channel MHz, 865 MHz, 868 MHz or 868 limited channel MHz band
- Each Maestro Wireless® dimmer/switch or PowPak® module can communicate with up to 6 Radio Powr Savr occupancy/vacancy sensors
- Each GRAFIK Eye QS® main unit can communicate with up to 30 wireless devices; each Radio Powr Savr occupancy/vacancy sensor counts as one wireless device toward the limit
- Each QS sensor module can communicate with ten Radio Powr Savr occupancy/vacancy sensors
- A RadioRA® 2 system can have up to 200 devices; each Radio Powr Savr occupancy/vacancy sensor counts as one device toward the limit

[Download specification submittal](#)

[Download high resolution product image](#)

## Explanation of features



Radio Powr Savr ceiling-mount wireless occupancy/vacancy sensor



### Features

1 Sensor lens	<ul style="list-style-type: none"> <li>Lens will illuminate orange in response to test mode</li> </ul>
2 Sensor test button	<ul style="list-style-type: none"> <li>Lens will illuminate in response to motion; tests placement and coverage</li> </ul>
3 Lights on/off button	<ul style="list-style-type: none"> <li>Signals load control to turn on/off; tests RF range</li> </ul>
4 Service opening	<ul style="list-style-type: none"> <li>Used by service personnel for remote system configuration</li> </ul>

## Available models



Occupancy/  
vacancy



Vacancy only

## Model numbers

### Wireless occupancy/vacancy sensors

#### Ceiling-mount (434 MHz)

Occupancy/vacancy	LRF2-OCR2B-P-WH
Vacancy only	LRF2-VCR2B-P-WH

#### Ceiling-mount (868 MHz) (CE)

Occupancy/vacancy	LRF3-OCRB-P-WH
-------------------	----------------

#### Ceiling-mount (868 limited channel MHz)

Occupancy/vacancy	LRF4-OCRB-P-WH
-------------------	----------------

#### Ceiling-mount (865 MHz)

Occupancy/vacancy	LRF5-OCR2B-P-WH
-------------------	-----------------

#### Ceiling-mount (315 MHz)

Occupancy/vacancy	LRF6-OCR2B-P-WH
-------------------	-----------------

#### Ceiling-mount (434 limited channel MHz)

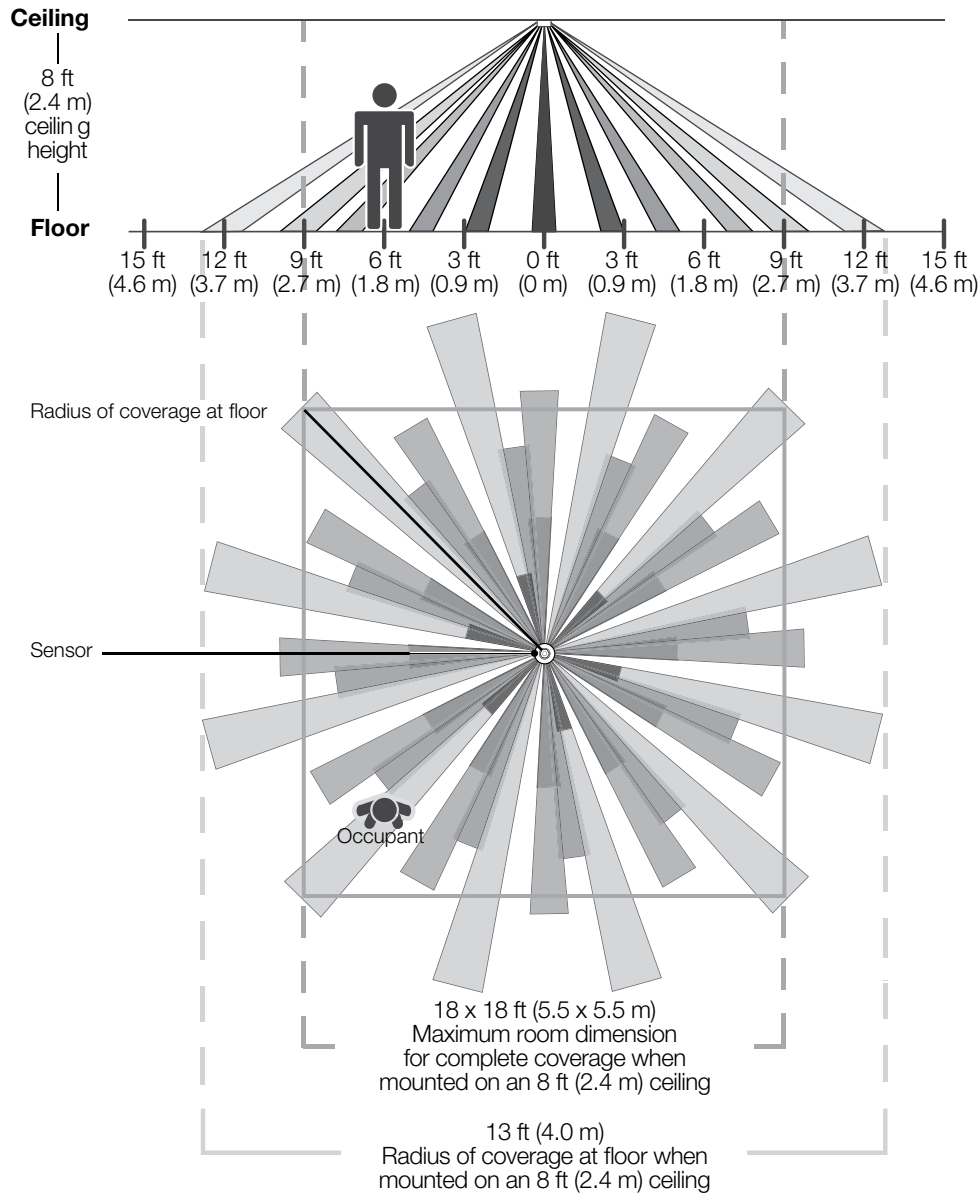
Occupancy/vacancy	LRF7-OCR2B-P-WH
-------------------	-----------------

Compatible with Energi TriPak®, GRAFIK Eye® QS, Energi Savr Node™ and RadioRA 2® systems.

For specific radio frequency information by country, refer to radio frequency chart on pg. 461.

## Coverage

### Sensor coverage pattern\* 8 ft (2.4 m) ceiling shown



### Detection range for fine motion

Ceiling height	Maximum room dimensions for complete floor coverage	Square feet
8 ft (2.4 m)	18 x 18 ft (5.5 x 5.5 m)	324 ft <sup>2</sup> (30.2 m <sup>2</sup> )
9 ft (2.7 m)	20 x 20 ft (6.1 x 6.1 m)	400 ft <sup>2</sup> (37.2 m <sup>2</sup> )
10 ft (3.0 m)	22 x 22 ft (6.7 x 6.7 m)	484 ft <sup>2</sup> (44.9 m <sup>2</sup> )
12 ft (3.7 m)	26 x 26 ft (7.9 x 7.9 m)	676 ft <sup>2</sup> (62.4 m <sup>2</sup> )

\*Gray shaded areas in the above illustration represent sensor detection areas.





Shown actual size: Radio Powr Savr wall-mount wireless occupancy/vacancy sensor – 434 MHz in White (LRF2-OWLB-P-WH)

### Features and capacities

- Simple installation with no wiring
- Passive infrared (PIR) with exclusive Lutron XCT™ technology for fine motion detection
- Occupancy/vacancy has auto-on/auto-off and manual on/auto-off
- Vacancy model has manual on/auto-off control to meet California Title 24 Section 119 (j) requirements
- Three models available:
  - Wall-mount: 180° field-of-view
  - Corner-mount: 90° field-of-view
  - Hallway: Long, narrow field-of-view

- Timeout options include: 1 minute, 5 minutes, 15 minutes and 30 minutes
- Recommended mounting height 6–8 ft (1.8–2.4 m) from floor
- Multiple sensors can be added for extended coverage—refer to product specification submittals of receiving device to determine system limits
- For indoor use only temperature: 32°F–104°F (0°C–40°C)
- Battery included; 10-year battery life design
- Available in White (WH)

### Dimensions and mounting

- Width: 1.8 in (46 mm)  
Height: 4.35 in (110 mm)  
Depth: 1.35 in (34 mm)
- Mount within 60 ft (18 m) line-of-sight or 30 ft (9 m) through walls, of the receiving devices
- Temporary mounting hardware (included) allows for optimum sensor placement and coverage
- Mounts on wall, not in wallbox

### Communication

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other Lutron wireless devices
- Models available for operation at 434 MHz or 434 limited channel MHz band
- Each Maestro Wireless® dimmer/switch or PowPak® module can communicate with up to 6 Radio Powr Savr occupancy/vacancy sensors
- Each GRAFIK Eye QS® main unit can communicate with up to 30 wireless devices; each Radio Powr Savr occupancy/vacancy sensor counts as one wireless device toward the limit
- Each QS sensor module can communicate with ten Radio Powr Savr occupancy/vacancy sensors
- A RadioRA® 2 system can have up to 200 devices; each Radio Powr Savr occupancy/vacancy sensor counts as one device toward the limit

[Download specification submittal](#)

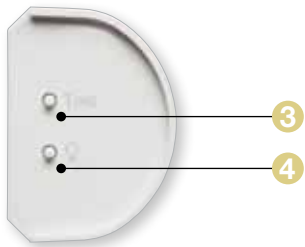
[Download high resolution product image](#)

## Explanation of features



Radio Powr Savr wall-mount wireless occupancy/vacancy sensor

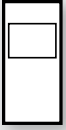
Features	
1 Sensor lens	<ul style="list-style-type: none"> <li>• Lens varies internally based on model</li> <li>• Lens will illuminate orange in response to test mode</li> </ul>
2 Model options	<ul style="list-style-type: none"> <li>• 180° field-of-view, 90° field-of-view for corner mounting, and hallway sensor for long, narrow field-of-view</li> </ul>
3 Sensor test button	<ul style="list-style-type: none"> <li>• Lens will illuminate in response to motion; tests placement and coverage</li> </ul>
4 Lights on/off button	<ul style="list-style-type: none"> <li>• Signals load control to turn on/off; tests RF range</li> </ul>



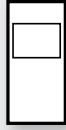
1.35 in (34 mm)



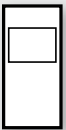
## Available models



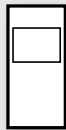
Wall (180°)  
occupancy/  
vacancy



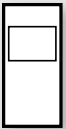
Wall (180°)  
vacancy only



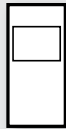
Corner (90°)  
occupancy/  
vacancy



Corner (90°)  
vacancy only



Hallway  
occupancy/  
vacancy



Hallway  
vacancy only

## Model numbers

### Wireless occupancy/vacancy sensors

#### 180° wall mount (434 MHz)

Occupancy/vacancy	LRF2-OWLB-P-WH
Vacancy only	LRF2-VWLB-P-WH

#### 180° corner mount (434 limited channel MHz)

Occupancy/vacancy	LRF7-OWLB-P-WH
-------------------	----------------

#### 90° corner mount (434 MHz)

Occupancy/vacancy	LRF2-OKLB-P-WH
Vacancy only	LRF2-VKLB-P-WH

#### 90° corner mount (434 limited channel MHz)

Occupancy/vacancy	LRF7-OKLB-P-WH
-------------------	----------------

#### Hallway (434 MHz)

Occupancy/vacancy	LRF2-OHLB-P-WH
Vacancy only	LRF2-VHLB-P-WH

#### Hallway (434 limited channel MHz)

Occupancy/vacancy	LRF7-OHLB-P-WH
-------------------	----------------

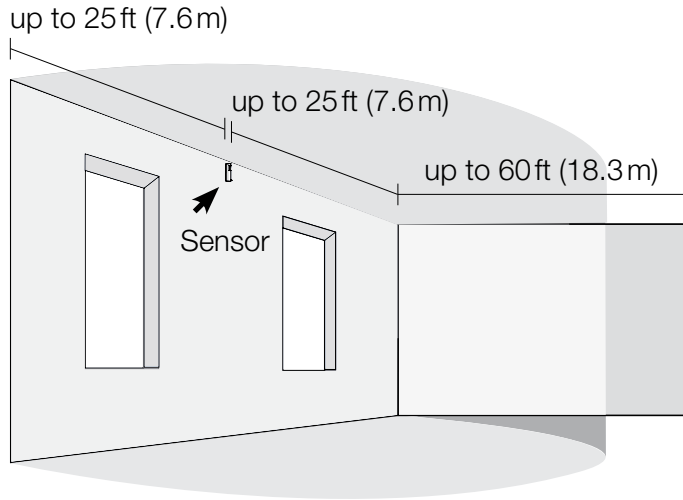
Compatible with Energi TriPak®, GRAFIK Eye® QS, Energi Savr Node™ and RadioRA 2® systems.

For specific radio frequency information by country, refer to radio frequency chart on pg. 461.

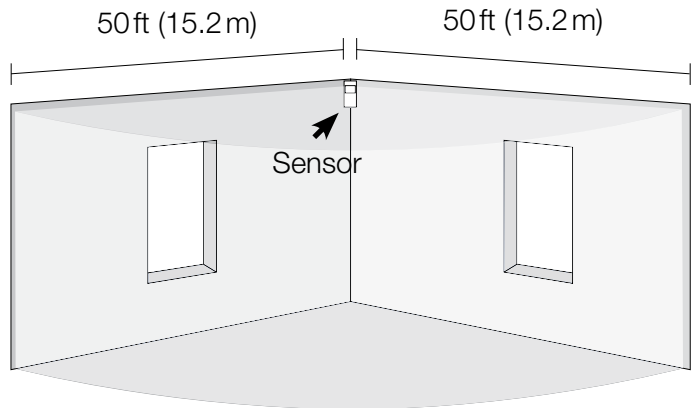
## Typical mounting illustrations

For illustration purposes only.  
Consult specific coverage pattern (pgs. 224-226) to determine appropriate location.

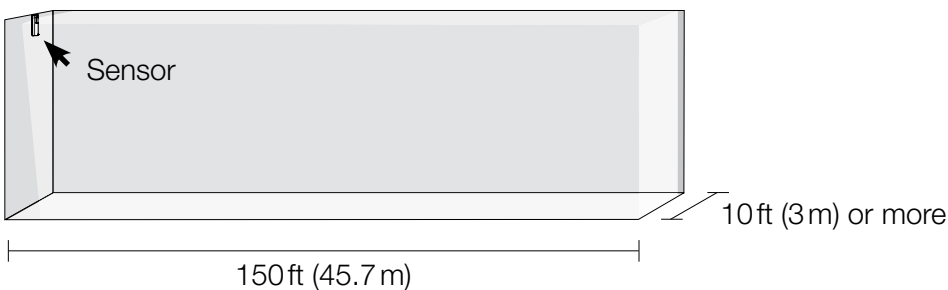
### 180° field-of-view wall-mount sensor



### 90° field-of-view corner-mount sensor

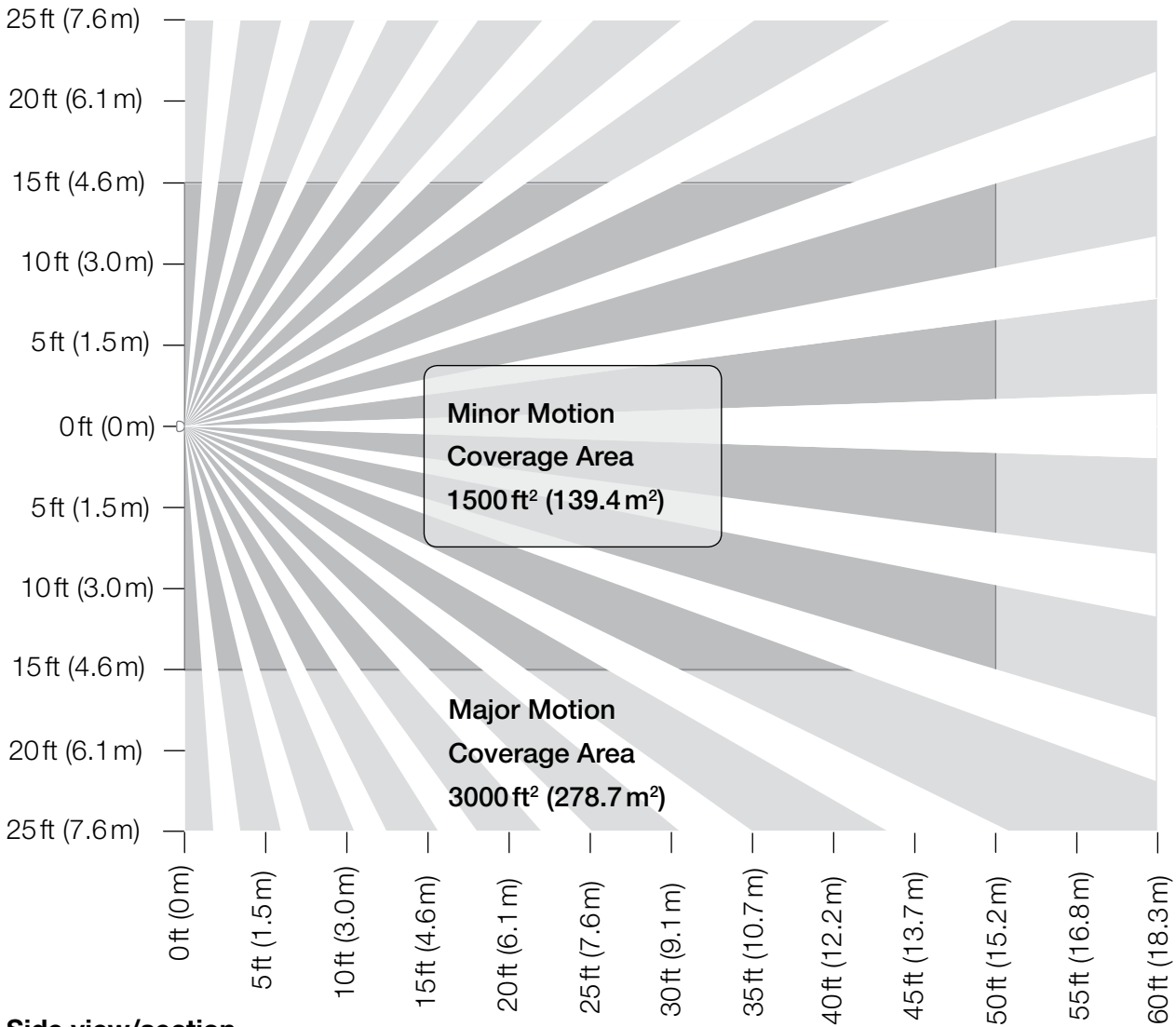


### Hallway long, narrow field-of-view sensor

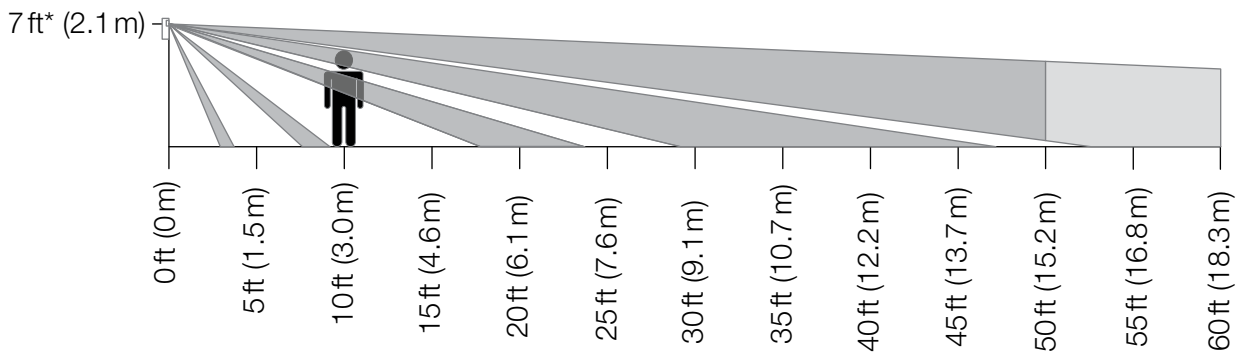


### 180° field-of-view wall-mount sensor coverage

#### Top view/plan view



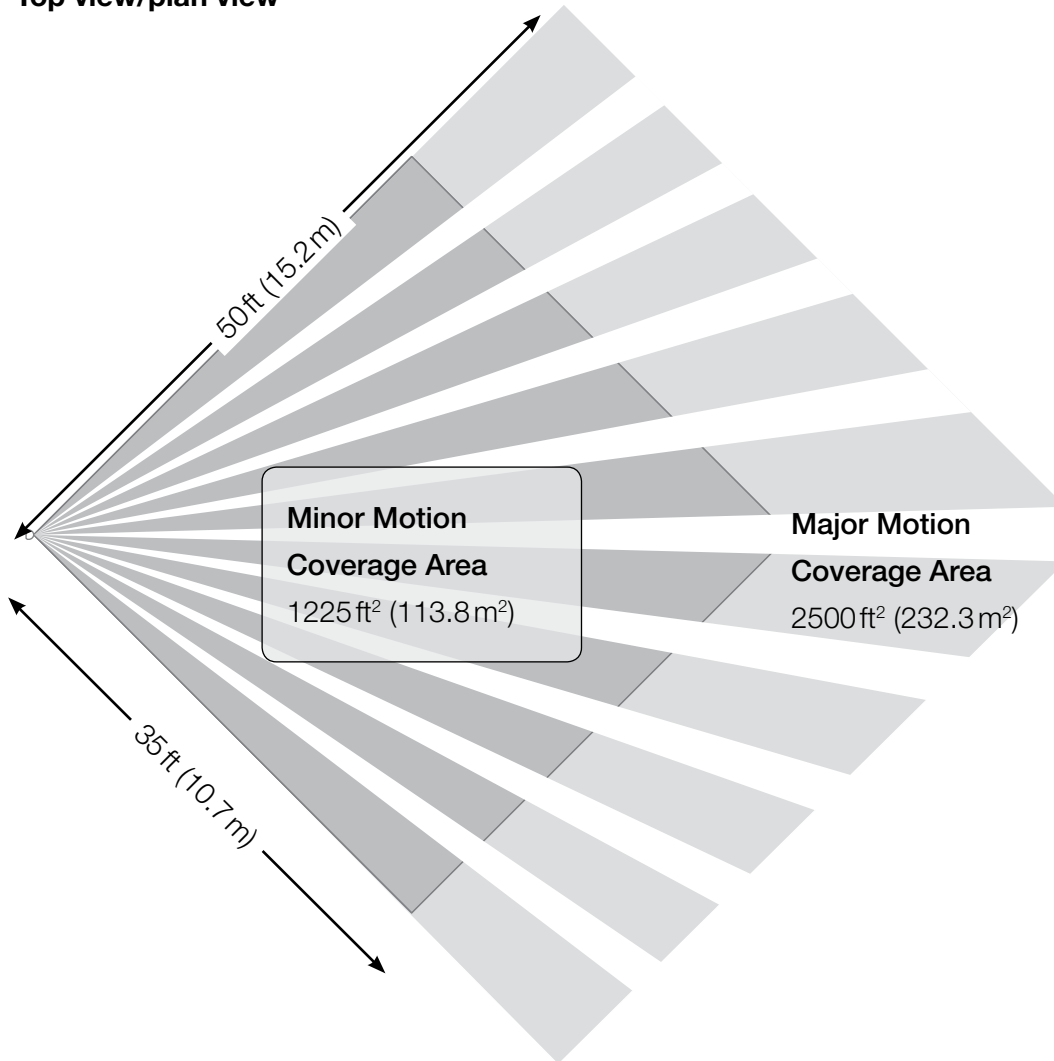
#### Side view/section



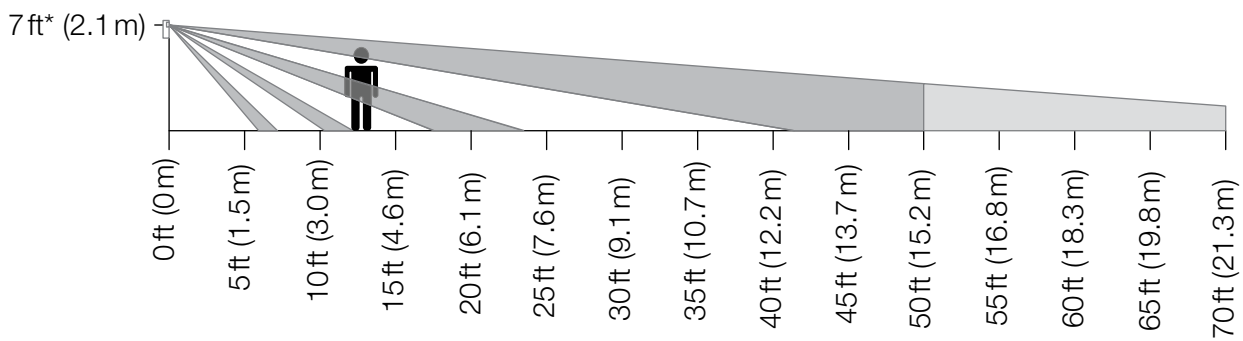
\*Sensor mounting shown at 7 ft. (2.1 m), mounting height should be between 6 ft and 8 ft (1.6–2.4 m).

## 90° field-of-view corner-mount sensor coverage

### Top view/plan view



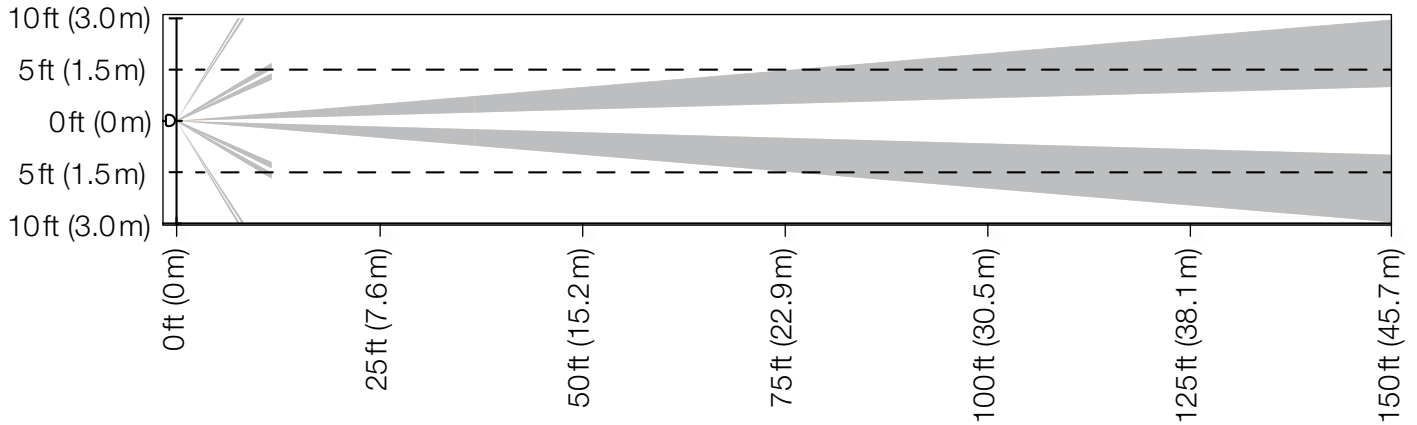
### Side view/section



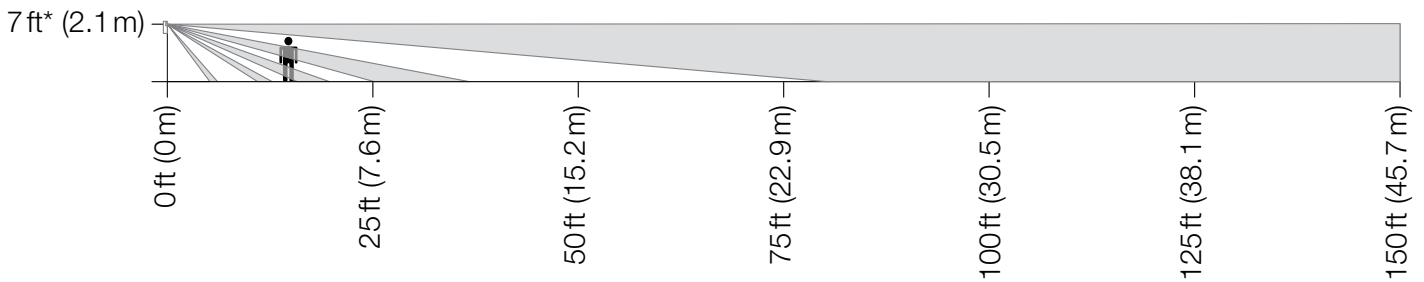
\*Sensor mounting shown at 7 ft. (2.1 m), mounting height should be between 6 ft and 8 ft (1.6–2.4 m).

## Hallway sensor coverage

### Top view/plan view



### Side view/section

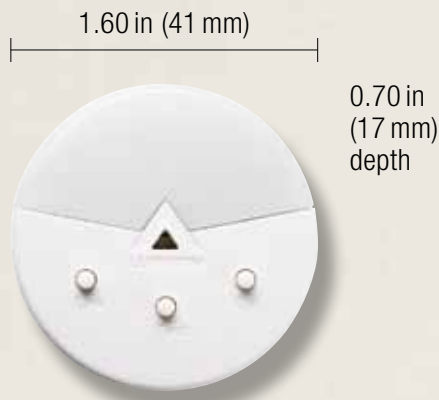


Hallway version with coverage of up to 150ft (45.7m)

### Maximum recommended hallway length

Width of Hall	Length of Hall
6ft (1.6m) or less	50ft (15.2m)
8ft (2.4m)	100ft (30.5m)
10ft (3.06m) or more	150ft (45.7m)

\*Sensor mounting shown at 7ft. (2.1m), mounting height should be between 6ft and 8ft (1.6–2.4m).  
 Designed for mounting at the end of hallway with view down the length of hall, detection at longer distance is best for motion occurring at right angles to the sensor.



Shown actual size: Radio Powr Savr wireless daylight sensor – 434 MHz in White (LRF2-DCRB-WH)

### Features and capacities

- Simple installation with no wiring
- Detects light level and relays information back to compatible wireless device
- Daylight harvesting automatically dims/switches off the lights when sufficient daylight is available and brightens/turns on the lights when the available daylight is low
- Proportional open loop system allows the signal to vary during the course of the day
- Suitable for use with light levels up to 10,000 foot-candles (fc)
- A maximum of one sensor may be assigned to each preset lighting zone
- Available in White (WH)
- For indoor use, temperature: 32 °F–104 °F (0 °C–40 °C)
- Battery included; 10-year battery life design

### Dimensions and mounting

- Diameter: 1.60 in (41 mm);  
Depth: 0.70 in (17 mm)
- Mount within 60 ft (18 m) line-of-sight or 30 ft (9.1 m) through walls of the receiving devices
- Built-in test-mode and temporary mounting hardware (included) allows for optimum sensor placement and coverage

### Communication

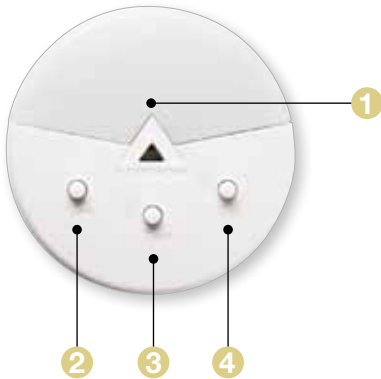
- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other Lutron wireless devices
- Operates at 315 MHz, 434 MHz, 434 limited channel MHz, 865 MHz, 868 MHz or 868 limited channel MHz band
- Each Maestro Wireless® dimmer/switch or PowPak® module can communicate with one Radio Powr Savr daylight sensor
- Each GRAFIK Eye QS® main unit can communicate with up to 30 wireless devices; each Radio Powr Savr daylight sensor counts as one wireless device toward the limit
- Each QS sensor module can communicate with ten Radio Powr Savr daylight sensors

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## Explanation of features



Radio Powr Savr wireless daylight sensor



### Features

1 Sensor lens	<ul style="list-style-type: none"> <li>• Arrow points toward the area viewed by the sensor</li> </ul>
2 Link button	<ul style="list-style-type: none"> <li>• Association and programming</li> </ul>
3 Sensor test button	<ul style="list-style-type: none"> <li>• Tests system functionality</li> </ul>
4 Calibration button	<ul style="list-style-type: none"> <li>• Press to calibrate system automatically</li> </ul>

## Model numbers

### Wireless daylight sensors

#### Ceiling-mount (434 MHz)

Daylight	LRF2-DCRB-WH
----------	--------------

#### Ceiling-mount (868 MHz) (CE)

Daylight	LRF3-DCRB-WH
----------	--------------

#### Ceiling-mount (868 limited channel MHz)

Daylight	LRF4-DCRB-WH
----------	--------------

#### Ceiling-mount (865 MHz)

Daylight	LRF5-DCRB-WH
----------	--------------

#### Ceiling-mount (315 MHz)

Daylight	LRF6-DCRB-WH
----------	--------------

#### Ceiling-mount (434 limited channel MHz)

Daylight	LRF7-DCRB-WH
----------	--------------

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

For specific radio frequency information by country, refer to radio frequency chart on pg. 458.

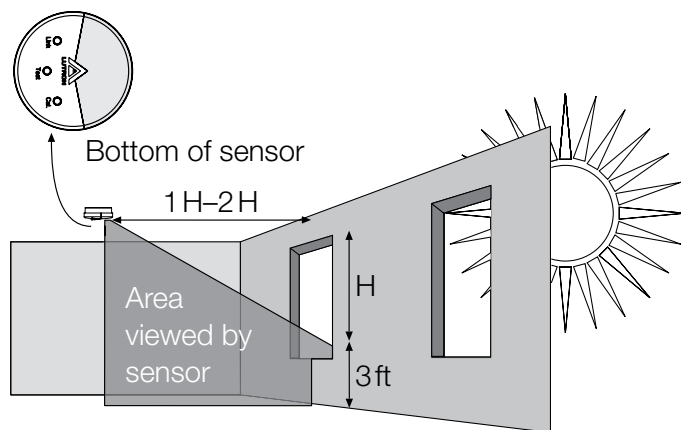
## Sensor placement

**Determine the daylight sensor mounting location using the diagram below:**

- Place the daylight sensor so the viewing area is centered on the nearest window at a distance from the window of one to two times the effective window height (H)
- The effective window height (H) starts at the window sill or 3 ft (1 m) up from the floor, whichever is higher, and ends at the top of the window
- Do not position the daylight sensor in the well of a skylight or above indirect lighting fixtures
- For narrow areas where the daylight sensor cannot be placed 1 H–2 H from windows, place sensor near windows facing into space

### Location for average size areas

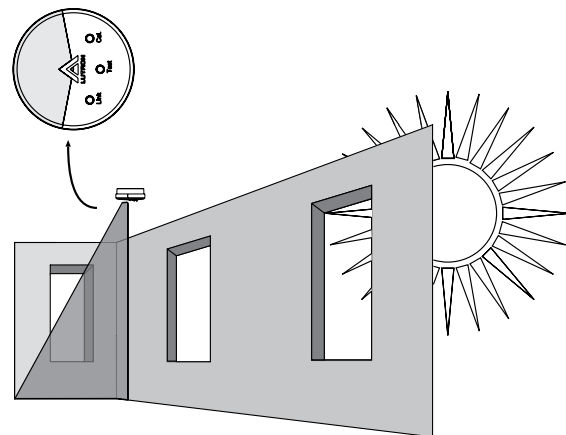
Arrow points towards the area viewed by the sensor (toward windows)

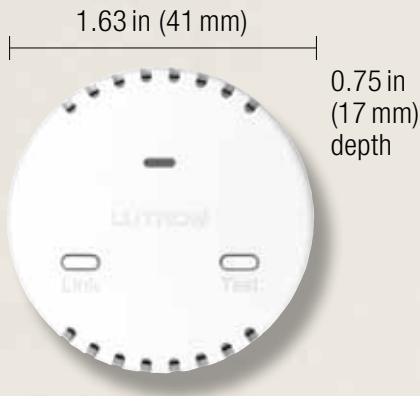


**H** = Effective Window Height

### Location for narrow areas (corridors, private offices)

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





Shown actual size: Wireless wall-mount temperature sensor in Snow (LRF2-TWRB-SW)

## Features and capacities

- Simple installation with no wiring—requires compatible receiving HVAC controller (see below)
- Detects temperature and transmits information to HVAC controller
- Use up to four wireless/wired temperature sensors per HVAC controller (temperatures are averaged)
- Battery included; 5-year battery life

## Dimensions and mounting

- Width: 1.63 in (41 mm)  
Depth: 0.75 in (17 mm)
- Temporary attachment method: 3M command strip
- Permanent attachment: wall anchor and screw
- Surface mount to wall in space to be conditioned

## Communication and wiring

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to HVAC controller
- Typical range is 30 ft through walls and floors
- Operates at 434 MHz band
- A RadioRA 2 system can have up to 200 devices; each wall-mount temperature sensor counts as one device toward the limit

## Related components



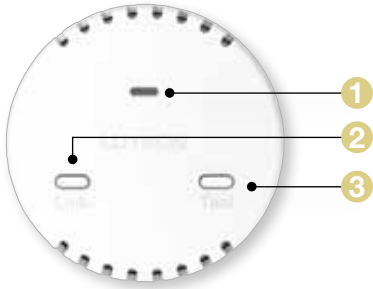
seeTemp® wall control  
(available separately,  
see pg. 184)



HVAC controller  
(available separately,  
see pg. 275)

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[Download high resolution product image](#)

## Explanation of features



Wireless wall-mount temperature sensor

0.75 in  
(17 mm)



### Features

<p><b>1</b> Status LED</p>	<ul style="list-style-type: none"> <li>Amber LED provides feedback during association and commissioning</li> </ul>
<p><b>2</b> Link button</p>	<ul style="list-style-type: none"> <li>Assigns sensor with HVAC controller</li> </ul>
<p><b>3</b> Test button</p>	<ul style="list-style-type: none"> <li>Press to test system functionality</li> </ul>

## Available finishes

### Satin finishes



**SW**  
Snow



**MN**  
Midnight

## Model numbers

### Temperature sensors

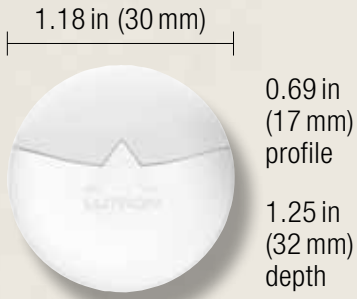
#### Wall-mount

Wireless, 434 MHz

LRF2-TWRB-**XX**<sup>1</sup>

Compatible with RadioRA® 2.

**XX**<sup>1</sup>: Available in Snow (SW) and Midnight (MN)



Shown actual size: Daylight sensor in White (EC-DIR-WH)

### Features and capacities

- Automatically dims the lights when the available daylight is sufficient and brightens the lights when the available daylight is low in order to maintain a specific light level
- Designed to give a linear response to changes in viewed light level
- Photopic response matches human eye
- Suitable for internal ambient light levels between 0 and 500 fc
- Acts as an IR receiver from handheld devices and transfers IR signals to a digital ballast, control module or sensor interface
- For indoor use, temperature: 32 °F–113 °F (0 °C–45 °C)
- Available in White (WH)

### Dimensions and mounting

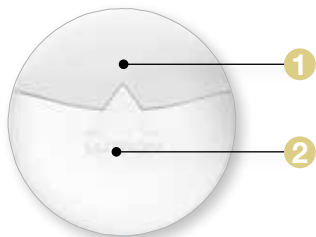
- Diameter: 1.18 in (30 mm)  
Depth: 1.25 in (32 mm);  
Profile: 0.69 in (17 mm)
- Optional sensor post allows sensor to be extended from any ceiling for a length up to 36 in
- Mount to ceiling or fixture with 0.375 in (10 mm) diameter hole

### Communication and wiring

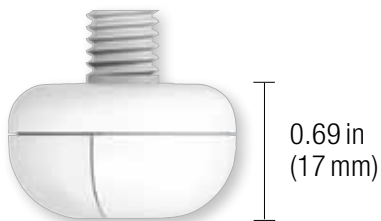
- 20V DC
- Total wire length from sensor to device must not exceed 100 ft (30 m)
- Infrared (IR) receiver receives IR programming signals from up to 8 ft (2.5 m) away
- Designed to connect directly to an EcoSystem ballast or module (with sensor inputs), QS sensor module, or Energi Savr Node™ via low-voltage wiring
- Uses one half power draw unit on the QS link, when connected to the QS sensor module (QSM); power draw calculations are not needed for inputs connected directly to the Energi Savr Node or EcoSystem ballast/module
- Does not connect directly to the QS link
- The QS link can have up to 100 daylight sensors; each wired daylight sensor counts as one daylight sensor toward the limit

[Download specification submittal](#)

## Explanation of features



EcoSystem® wired daylight sensor



### Feature

<p><b>1</b> Sensor lens</p>	<ul style="list-style-type: none"> <li>• Arrow points toward the area viewed by the daylight sensor</li> </ul>
<p><b>2</b> IR receiver</p>	<ul style="list-style-type: none"> <li>• Receives and transfers IR receivers</li> </ul>

## Model numbers

### Daylight sensor

#### Ceiling or fixture-mount

Sensor	EC-DIR-WH
Sensor mounting post	CPN3510

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

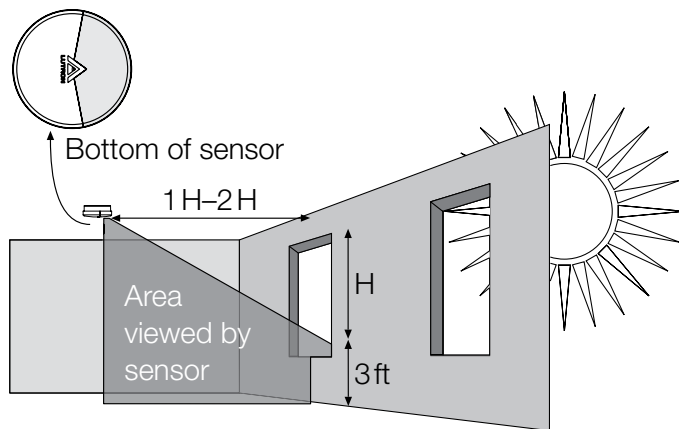
## Sensor placement

### Determine the daylight sensor mounting location using the diagram below

- Place the daylight sensor so the viewing area is centered on the nearest window at a distance from the window of one to two times the effective window height (H)
- The effective window height (H) starts at the window sill or 3 ft (1 m) up from the floor, whichever is higher, and ends at the top of the window
- Do not position the daylight sensor in the well of a skylight or above indirect lighting fixtures
- For narrow areas where the daylight sensor cannot be placed 1 H–2H from windows, place sensor near windows facing into space

### Location for average size areas

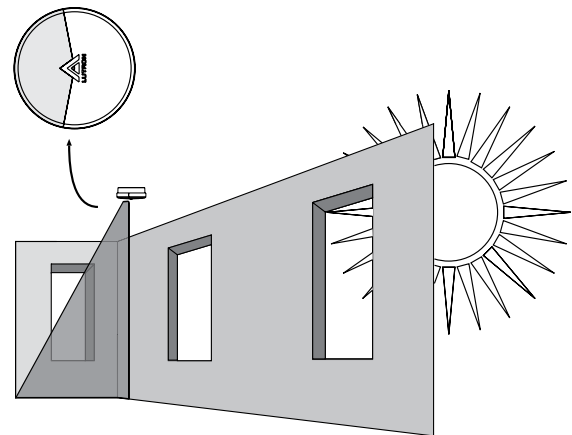
Arrow points toward the area viewed by the sensor (toward windows)



**H** = Effective Window Height

### Location for narrow areas (corridors, private offices)

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





Shown above: Wired, ceiling-mount dual technology sensor in White (LOS-CDT-2000-WH)

### Features and capacities

- Sensors can integrate into Lutron system or function as stand-alone control using wired power pack
- Affords choice of turning lights off or dimming to preset level in unoccupied state when integrated into Lutron system
- Models available in ultrasonic, passive infrared, or dual technology
- Dual technology sensors are self-adaptive to automatically adjust sensitivity and timing
- Coverages available from 450 ft<sup>2</sup>–2000 ft<sup>2</sup> (137 m<sup>2</sup>–610 m<sup>2</sup>) mounted at 8 ft to 12 ft (2.4 m–3.6 m) from floor

- 360° and 180° field-of-view models available
- Models available with an additional dry contact closure output
- Available in White (WH)
- For indoor use only, temperature: 32 °F–104 °F (0 °C–40 °C)

### Dimensions and mounting

- Width: 4.50 in (114 mm)  
Depth: 1.40 in (38 mm)
- Snap-locks to ceiling-mounted cover plate

### Communication and wiring

- 20-24 V DC
- Connects to system via low-voltage IEC PELV/NEC Class 2 wiring through contact closure inputs or directly to an EcoSystem® ballast or module (with sensor inputs), QS sensor module, Energi Savr Node™ module, or GRAFIK Eye® QS main unit
- Uses two power draw units on the QS link when connected to the QS sensor module; power draw calculations are not needed for inputs connected directly to the Energi Savr Node module, GRAFIK Eye QS main unit, or EcoSystem ballast/module
- Power pack required for stand-alone control, when more than one sensor is connected to an occupancy sensor input or when sensor is connected to the system via contact closure interface
- The QS link can have up to 100 occupancy sensors; each LOS-C series occupancy sensor counts as one occupancy sensor toward the limit

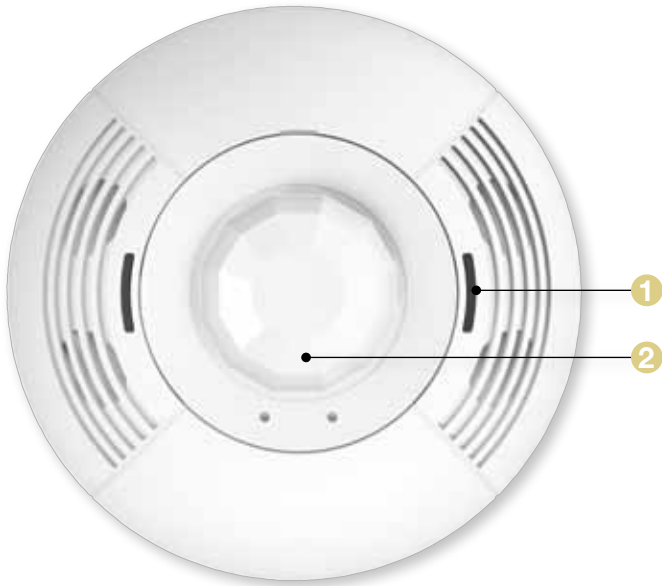
[Download specification submittal for LOS-CIR Series](#)

[Download specification submittal for LOS-CDT Series](#)

[Download specification submittal for LOS-CUS Series](#)



## Explanation of features



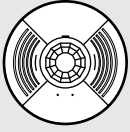
### Features

1 Green LED	• Indicates when ultrasonic motion is detected
2 Red LED	• Indicates when infrared (IR) is detected

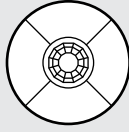
Wired ceiling-mount dual technology sensor



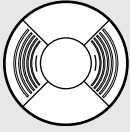
## Available models



Dual technology  
occupancy



Passive infrared  
occupancy



Ultrasonic  
occupancy

## Model numbers

### Wired, ceiling-mount occupancy sensors

#### Dual technology

2,000 ft <sup>2</sup> (610 m <sup>2</sup> ), 360°	LOS-CDT-2000-WH
Additional contact closure	LOS-CDT-2000R-WH
1,000 ft <sup>2</sup> (305 m <sup>2</sup> ), 180°	LOS-CDT-1000-WH
Additional contact closure	LOS-CDT-1000R-WH
500 ft <sup>2</sup> (152 m <sup>2</sup> ), 180°	LOS-CDT-500-WH
Additional contact closure	LOS-CDT-500R-WH

#### Ultrasonic

2,000 ft <sup>2</sup> (610 m <sup>2</sup> ), 360°	LOS-CUS-2000-WH
1,000 ft <sup>2</sup> (305 m <sup>2</sup> ), 180°	LOS-CUS-1000-WH
500 ft <sup>2</sup> (152 m <sup>2</sup> ), 180°	LOS-CUS-500-WH

#### Passive infrared

1,500 ft <sup>2</sup> (457 m <sup>2</sup> ), 360°	LOS-CIR-1500-WH
450 ft <sup>2</sup> (137 m <sup>2</sup> ), 360°	LOS-CIR-450-WH

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

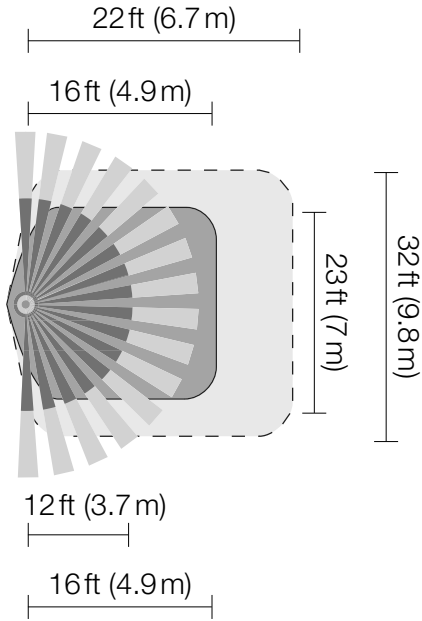
## Dual technology sensor coverage chart

LOS-CDT models (3 models available)

### Top view/Plan view

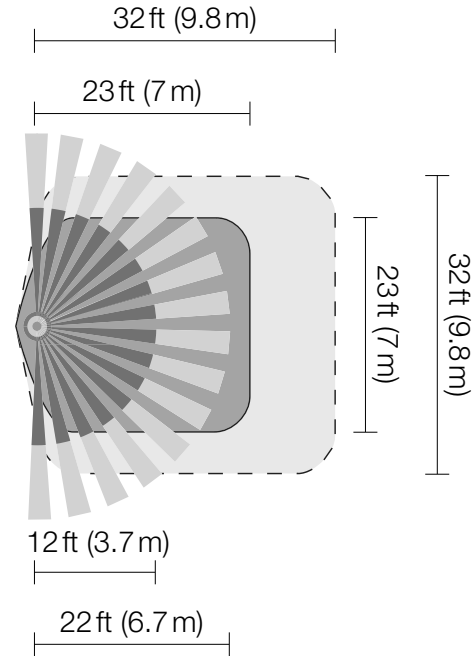
#### 500ft<sup>2</sup> (152m<sup>2</sup>) coverage

(LOS-CDT-500)



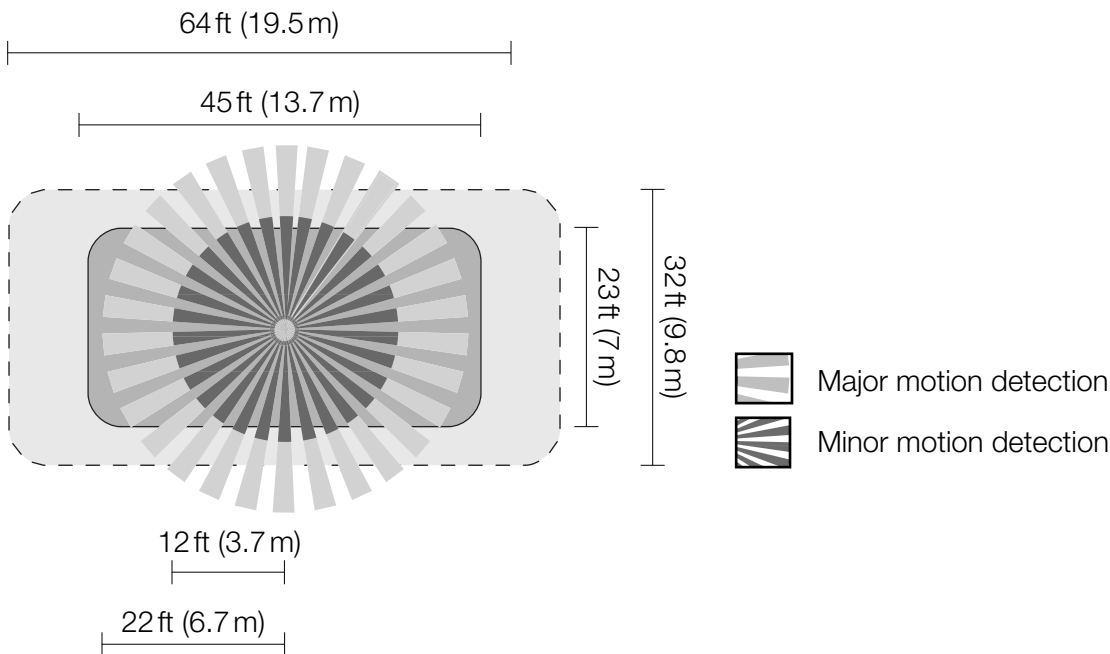
#### 1000ft<sup>2</sup> (305m<sup>2</sup>) coverage

(LOS-CDT-1000)



#### 2000ft<sup>2</sup> (610m<sup>2</sup>) coverage

(LOS-CDT-2000)



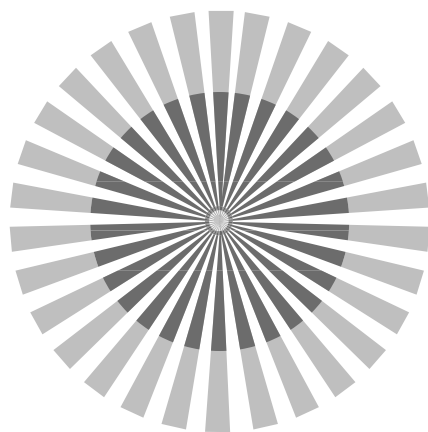
## Passive infrared sensor coverage chart

LOS-CIR models (2 models available)

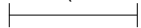
### Top view/Plan view

**450 ft<sup>2</sup> (137 m<sup>2</sup>) coverage**

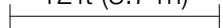
(LOS-CIR-450)



6.5 ft (1.9 m)

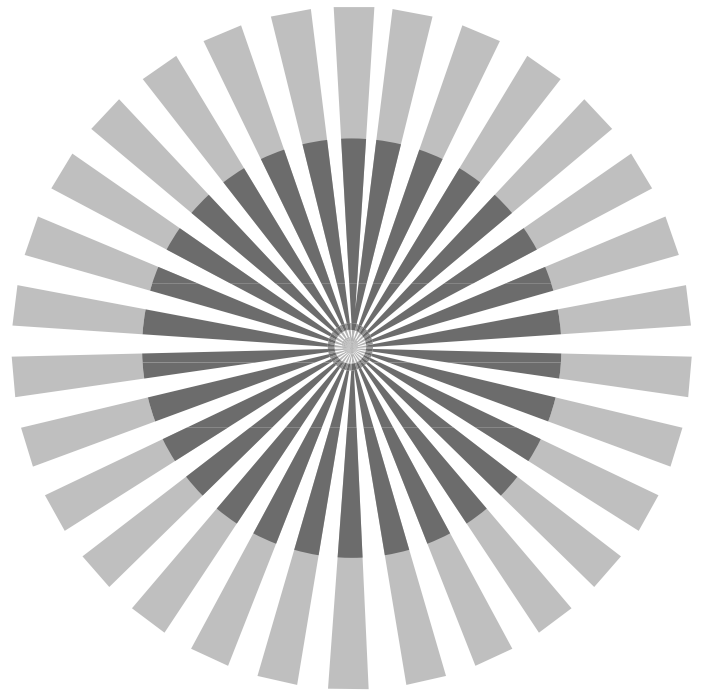


12 ft (3.7 m)

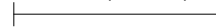


**1500 ft<sup>2</sup> (457 m<sup>2</sup>) coverage**

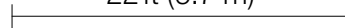
(LOS-CIR-1500)





12 ft (3.7 m)



22 ft (6.7 m)



-  Major motion detection
-  Minor motion detection

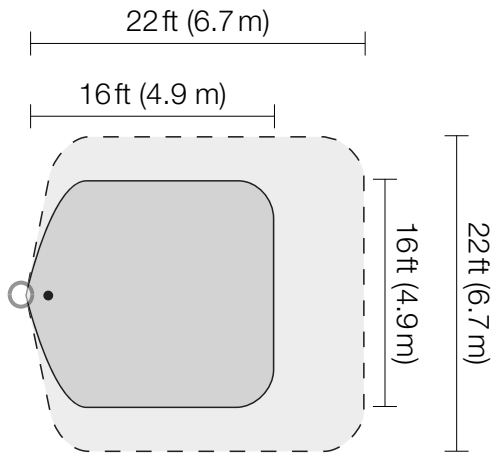
## Ultrasonic sensor coverage chart

### LOS-CUS models (3 models available)

#### Top view/Plan view

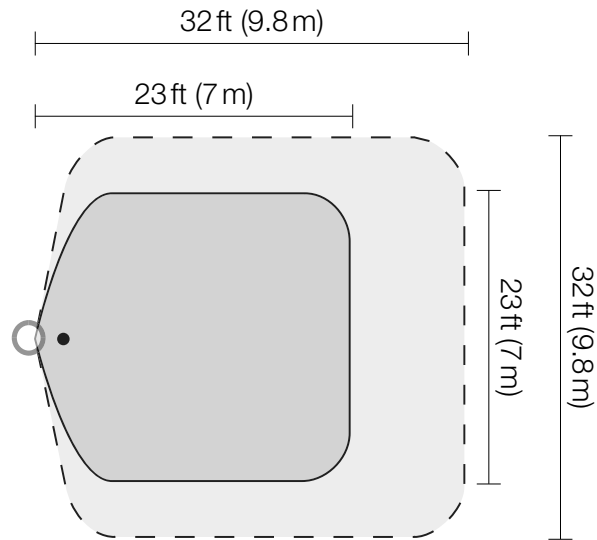
#### 500ft<sup>2</sup> (152m<sup>2</sup>) coverage

(LOS-CUS-500)



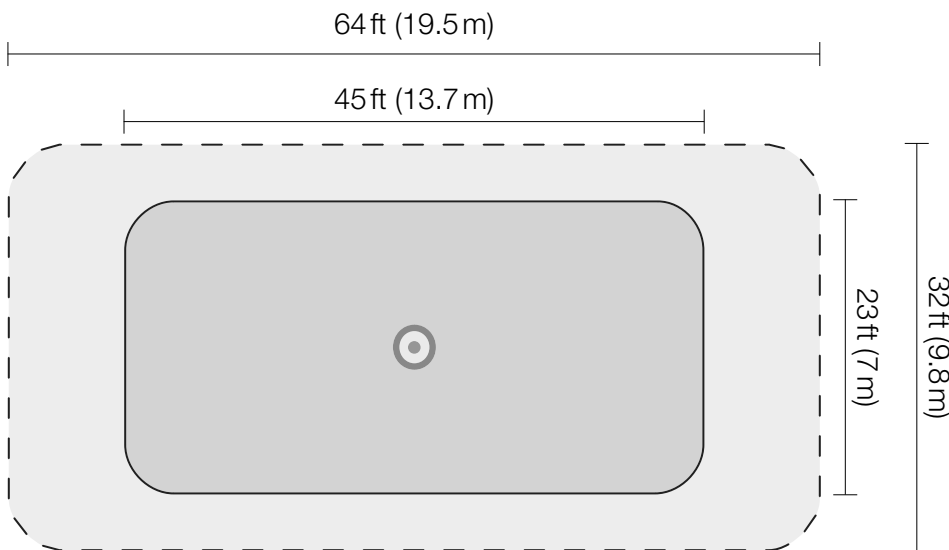
#### 1000ft<sup>2</sup> (305m<sup>2</sup>) coverage

(LOS-CUS-1000)



#### 2000ft<sup>2</sup> (610m<sup>2</sup>) coverage

(LOS-CUS-2000)



- Major motion detection
- Minor motion detection



Shown above: Wired wall-mount dual technology sensor in White (LOS-WDT-R-WH)

### Features and capacities

- Sensors can integrate into Lutron system or function as stand-alone control using wired power pack
- Affords choice of turning lights off or dimming to preset level in unoccupied state when integrated to Lutron system
- Models available with an additional dry contact closure output
- Dual-technology sensors are self-adaptive to automatically adjust sensitivity and timing

- Coverage of 1600ft<sup>2</sup> (488m<sup>2</sup>) mounted at 8ft to 12ft (2.4–3.7m) from floor
- 110° field-of-view
- Models available with additional dry contact closures
- Available in White (WH)
- For indoor use only, temperature: 32°F–104°F (0°C–40°C)

### Dimensions and mounting

- Width: 2.70in (69mm)
- Height: 5.25in (133mm)
- Depth: 3.90in (99mm)
- Flexible base allows mounting on wall or ceiling

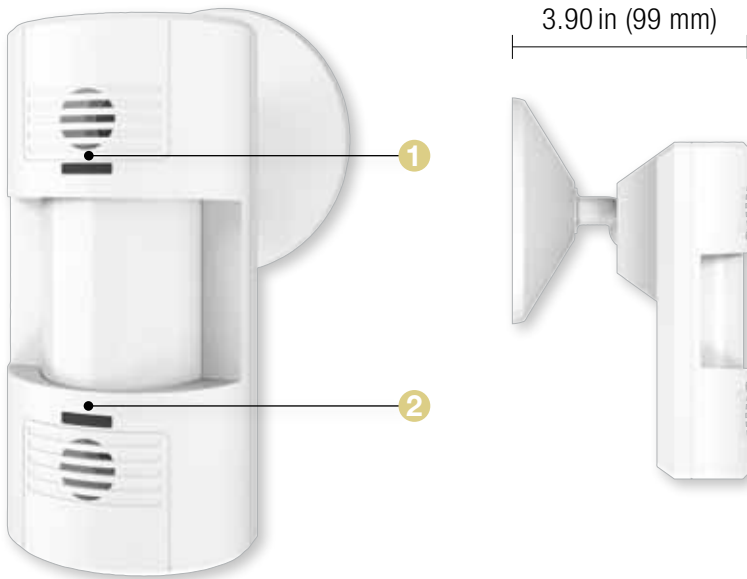
### Communication and wiring

- 20–24V DC
- Connects to system via low-voltage IEC PELV/NEC Class 2 wiring through contact closure inputs or directly to an EcoSystem® ballast or module (with sensor inputs), QS sensor module, Energi Savr Node™ module, or GRAFIK Eye® QS main unit
- Uses two power draw units on the QS link when connected to the QS sensor module; power draw calculations are not needed for inputs connected directly to the Energi Savr Node module, GRAFIK Eye QS main unit, or EcoSystem ballast/module
- Power pack required for stand-alone control, when more than one sensor is connected to an occupancy sensor input or when sensor is connected to the system via contact closure interface
- The QS link can have up to 100 occupancy sensors; each LOS-C series occupancy sensor counts as one occupancy sensor toward the limit

[Download specification submittal for LOS-WIR Series](#)

[Download specification submittal for LOS-WDT Series](#)

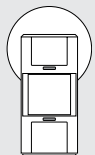
## Explanation of features



Features	
1 LED indicator	<ul style="list-style-type: none"> <li>Green LED indicates when ultrasonic motion is detected</li> </ul>
2 Red LED	<ul style="list-style-type: none"> <li>Red LED indicates when infrared (IR) is detected</li> </ul>

Wired wall-mount dual technology sensor

## Available models



Passive infrared occupancy



Dual technology, self-adaptive occupancy

## Model numbers

### Wired wall occupancy sensor

#### Dual technology

1,600 ft <sup>2</sup> (488 m <sup>2</sup> ), 110°	LOS-WDT-WH
Additional contact closure	LOS-WDT-R-WH

#### Passive infrared

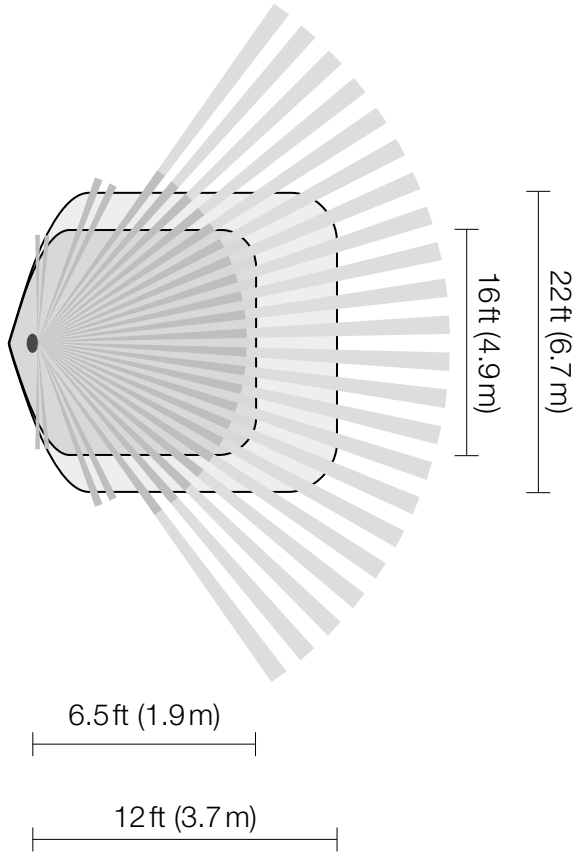
1,600 ft <sup>2</sup> (488 m <sup>2</sup> )	LOS-WIR-WH
---	------------



Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, GRAFIK Eye QS with DALI, Energi Savr Node™ with EcoSystem, Energi Savr Node for 0–10V/Energi Savr Node with Softswitch®, Energi Savr Node with EcoSystem (DIN-rail), Energi Savr Node for DALI (DIN-rail), Energi Savr Node for 0–10V/Energi Savr Node for Switching (DIN-rail), and Energi Savr Node Phase Adaptive (DIN-rail).

## Dual technology sensor coverage chart

### Top view/Plan view

(LOS-WDT)





-  Major motion detection
-  Minor motion detection

## Passive infrared sensor coverage chart

### Top view/Plan view

(LOS-WIR)



-  Major motion detection
-  Minor motion detection





Shown above: 360° surface-mount high-bay occupancy sensor (LUT-WSPSM24V-180-CPN6112)

### Features and capacities

- Passive infrared sensor designed for use in high-bay applications, such as warehouses, distribution centers and gymnasiums
- Sensors can integrate into Lutron system or by using a wired power pack can function as a stand-alone control
- Surface-mount and end-mount models available with either 180° or 360° area lens
- Mounted at 45 ft (14 m) from floor the 180° models feature 50 ft (15 m) coverage radius and the 360° models feature 1,450 ft<sup>2</sup> (135 m<sup>2</sup>) coverage
- Timeout options include 4, 8, 16 and 30 minutes
- Available in White (WH)
- For indoor use, temperature: 32°F–149°F (0°C–65°C)

### Dimensions and mounting

- 180° and 360° surface-mount:  
Diameter: 4.00 in (102 mm);  
Depth: 1.50 in (38 mm)
- 180° end-mount: Width 4.00 in (102 mm),  
Height: 4.50 in (114 mm); Depth: 1.50 in (38 mm)
- 360° end-mount: Width 3.60 in (91 mm),  
Height: 4.40 in (112 mm); Depth: 2.00 in (51 mm)
- Surface-mount models mount directly to fixture or to a standard 4.00 in (102 mm) x 4.00 in (102 mm) junction box via two 1.25 in (32 mm) stainless steel screws and locking nuts
- End-mount models mount directly to end of fixture through extended 0.5 in (13 mm) chase nipple
- Maximum mounting height is 45 ft (14 m)

### Communication

- 20–24 V DC
- Connects to system via low-voltage IEC PELV/ NEC Class 2 wiring through contact closure inputs or directly to an Ecosystem ballast/module (with sensor inputs), QS sensors module, Energi Savr Node module, or GRAFIK Eye QS main unit
- A QS link can have up to 100 occupancy sensors; each high-bay occupancy sensor counts as one occupancy sensor toward the limit
- Uses two power draw units on the QS link when connected to the QS sensor module; power draw calculations are not needed for inputs connected directly to the Energi Savr Node module, GRAFIK Eye QS main unit or EcoSystem ballast/module
- Power pack required for stand-alone control, when more than one sensor is connected to an occupancy sensor input, or when sensor is connected to the system via contact closure interface

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[Download high resolution product image](#)

## Explanation of features



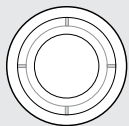
### Features

<b>1</b> Lens	<ul style="list-style-type: none"><li>Models available with 180° or 360° area lens</li></ul>
<b>2</b> Technology	<ul style="list-style-type: none"><li>Passive infrared, designed to detect major motion</li></ul>

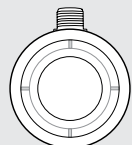
360° end-mount high-bay occupancy sensor



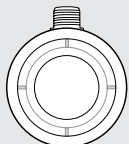
## Available models



180° and 360°  
surface-mount



180° end-mount



360° end-mount

## Model numbers

### Wired high-bay occupancy sensor

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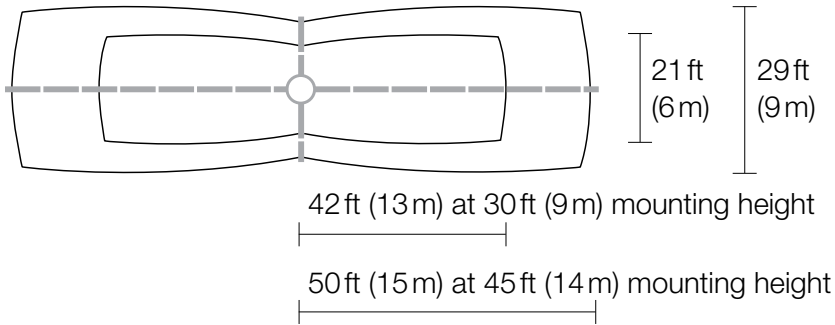
180° surface-mount	LUT-WSPSM24V-180-CPN6111
360° surface-mount	LUT-WSPSM24V-360-CPN6111
180° end-mount	LUT-WSPSEM24V-180-CPN6112
360° surface-mount	FHB140NP24V-CPN5190

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Compatible with GRAFIK Eye® QS and  
Energi Savr Node™ systems.

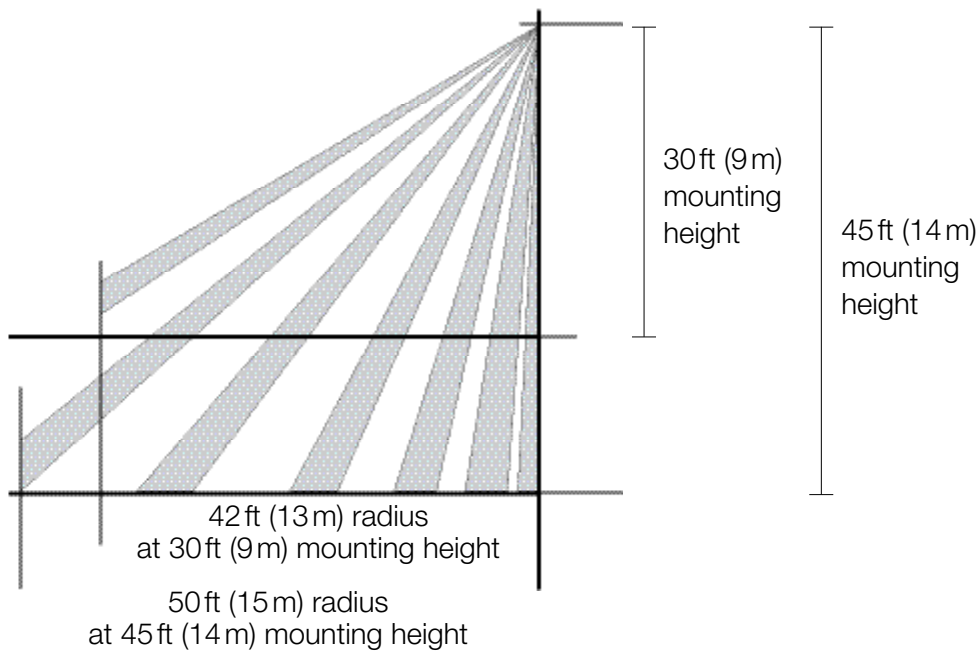
## 180° high-bay sensor coverage chart

### Top view/Plan view



## 360° high-bay sensor coverage chart

### Side view



Notes: Sensor is designed to detect major motion (i.e., walking person) only.  
A delay of 1 to 2 seconds from occupancy detection to turn-on may be experienced



Shown above: Wired power pack (PP-120H)

## Model numbers

### Power packs

120VAC @ 60Hz	PP-120H
230VAC @ 50/60 Hz	PP-230H
277VAC @ 60Hz	PP-277H
347VAC @ 60Hz	PP-347H
Auxiliary relay	PP-SH

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

## Features and capacities

- Provide both the 24V power supply to operate Lutron sensors as well as the 20A line voltage relay to control the load in one compact housing
- Models available for 120VAC, 230VAC (CE), 277VAC, and 347VAC
- Relay contact rating:  
20A: 120/230/277V ballast  
15A: 347V ballast  
15A: 120V incandescent
- Auxiliary relay allows for control of multiple lighting circuits or load types; draws power from another power pack and takes its control signal from the occupancy sensors
- Supports up to three Lutron LOS-C or LOS-W series wired sensors and/or auxiliary relay

## Dimensions and mounting

- Width: 3.69in (94 mm)  
Height: 2.33in (59 mm)  
Depth: 1.36in (35 mm)
- Unit can be placed outside or inside the junction box with a simple nut-twist

## Communication and wiring

- Approved for installation in spaces designed for air handling per NEC article 300.22(c)
- 24VDC, 100mA power output

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Shown above: Infrared partition status sensor (one of a pair) (GRX-IRPS-WH)



### Features and capacities

- Infrared transmitter/receiver pair detects partition movement and coordinates lighting preset functions
- Automatically combines lighting preset functions when partition is open creating one large space
- Lighting preset functions become independent as partition is closed creating several smaller spaces
- Requires contact closure input/output interface or QS seeTouch® keypad for operation

### Dimensions and mounting

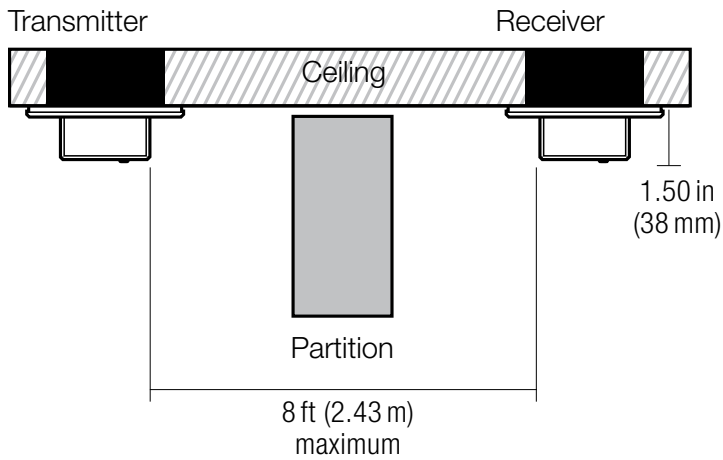
- Receiver and transmitter surface-mount in standard 1-gang U.S. wallboxes, 3.5 in (89 mm) deep, mounted face down from the ceiling
- The sensors must be mounted in a position where the partition separates the transmitter and receiver when the partition is closed
- Transmitter and receiver may be located no more than 8 ft (243 mm) apart
- Adjustable mounting brackets allow easy alignment during installation

### Communication and wiring

- 12-24 VDC from plug-in supply (P/N GRX-12VDC, sold separately)
- Connects to system via IEC PELV/NEC Class 2 low-voltage wiring through contact closure inputs

[Download specification submittal](#)

GRX-IRPS-WH (pair of sensors)



Black boxes represent standard 1-gang U.S. wallbox mounted facedown and flush with ceiling surface (typical of two)

## Model numbers

Infrared partition status sensor

Sensor	GRX-IRPS-WH
--------	-------------

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.







# Control interfaces

Control interfaces typically provide integration between Lutron® light and shading systems and other home and building systems.

The control interfaces addressed in this guide are specific to each country's voltage and frequency requirements. Please confirm that the products you have selected match the required voltages (pg. 458) and radio frequency (pg. 461) listed by country.

## Control interfaces allow integration with:

- Touch screens
- Projection screens
- Timeclocks
- Emergency lighting
- Audio/video equipment
- Security
- Fire alarms
- Building management systems
- Line-voltage shades
- Movable walls



**PowPak® contact closure output module**  
pg.266



**RadioRA® 2 main and auxiliary repeater**  
pg. 268



**RadioRA 2 visor control receiver\***  
pg.272



**HVAC controller**  
pg.275



Wireless Radio Frequency (RF) communication



**QS sensor module**  
pg. 278



**Emergency lighting interface**  
pg. 286



**QS contact closure input/output interface**  
pg. 280



**QS motor group controller**  
pg. 288



**QS RS232/Ethernet interface**  
pg. 282

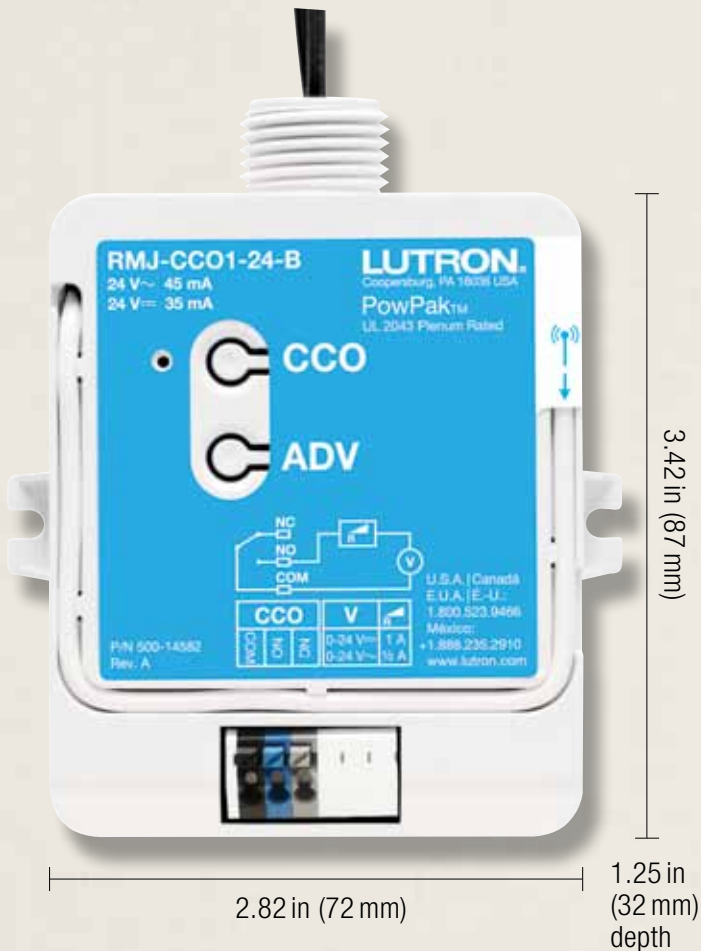


**Energi Savr Node™ programming interface**  
pg. 290



**QS DMX control interface**  
pg. 284

\*For third party integration in RadioRA 2 systems use main repeater, see pg. 66.



Shown actual size: PowPak contact closure output module—434 MHz (RMJ-CCO1-24-B)

### Features and capacities

- Single dry contact closure device
- Receives input from up to 9 Pico® wireless controls (pg. 164), 6 Radio Powr Savr™ occupancy/vacancy sensors (pg. 228, 232), and 1 Radio Powr Savr daylight sensor (pg. 239) via Lutron® reliable Clear Connect® radio frequency (RF) technology
- Voltage: 24V AC/DC
- Maximum load of 1 A @ 24V AC or 0.5A @ 24V DC; no minimum load required
- Button press programming to associate the module with Radio Powr Savr sensors and Pico wireless controls

### Dimensions and mounting

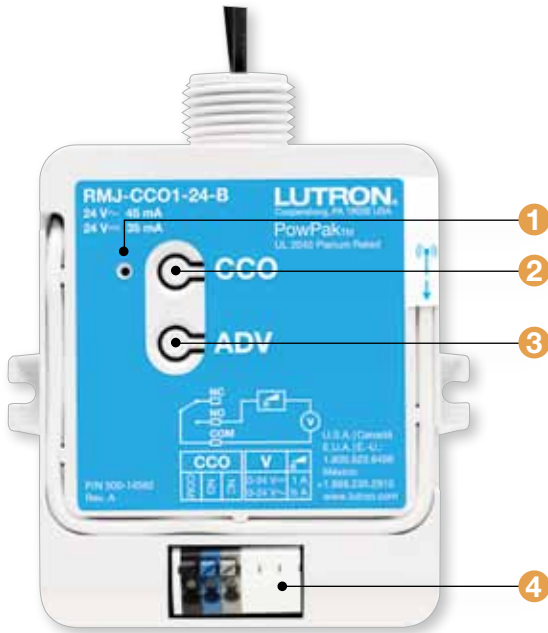
- Width: 2.82 in (72 mm)
- Height: 3.42 in (87 mm)
- Depth: 1.25 in (32 mm)
- Mounts through a 1/2 in NPT trade size knock-out to a junction box or to a fixture. Can also be mounted inside of a standard 4 in x 4 in junction box

### Communication and wiring

- 24V AC or 24V DC, 434 MHz frequency
- 24V AC or 24V DC, 434 MHz limited channel
- 24V AC or 24V DC, 868 MHz limited channel
- RF range of 30 ft (9m)

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[Download high resolution product image](#)

Explanation of features



**Features**

1 Load status LED	• Signals that device is on/off
2 Relay toggle	• Use to associate modules to wireless transmitters
3 Advanced operations	• Use to reset module to default settings
4 Contact closure output terminals	• Connect to third-party devices

Model numbers

24 V AC or 24 V DC (434 MHz)

1 contact closure output RMJ-CCO1-24-B

24 V AC or 24 V DC (434 MHz limited channel)

1 contact closure output RMQ-CCO1-24-B

24 V AC or 24 V DC (868 MHz limited channel)

1 contact closure output RMM-CCO1-24-B

All models are compatible with Energi TriPak® system.

For specific voltage by country information refer to voltage chart on pg. 458.

## Features and capacities

- Repeaters extend the range of Radio Frequency (RF) signals that are sent between dimmers, switches, keypads, visor controls, shades/ draperies, and other devices
- One main repeater is required to set up the system (up to two per system—requires qualification), and up to eight auxiliary repeaters (four per main repeater) can be added to extend the RF range for larger system applications
- Main repeater includes Ethernet, RS232, and wired repeater link; auxiliary repeater includes wired repeater link
- Includes integral astronomic timeclock with away mode
- A RadioRA 2 system can have up to 100 devices per main repeater, and up to two main repeaters per system (requires qualification)
- Available exclusively in White (WH)

## Dimensions and mounting

- Width: 4.25 in (108 mm)
- Height: 5.25 in (133 mm)
- Depth: 1.06 in (27 mm)
- Mount on a wall, ceiling, or flat surface using the two #6 (M3) screws provided.

## Communication and wiring

- Communicates via Lutron reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz
- The RF range is 60 ft (18 m) between repeaters and 30 ft (9 m) to other devices, with a total possible coverage area of approximately 2,500 sq ft (232 sq m) per repeater



Shown above: RadioRA 2 main repeater (RR-MAIN-REP-WH)

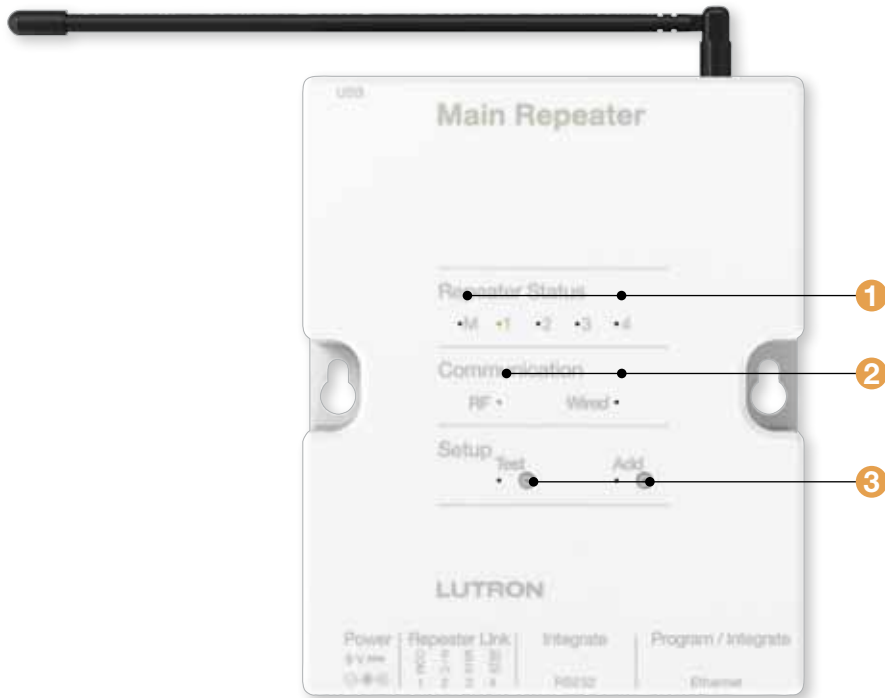
## Also available



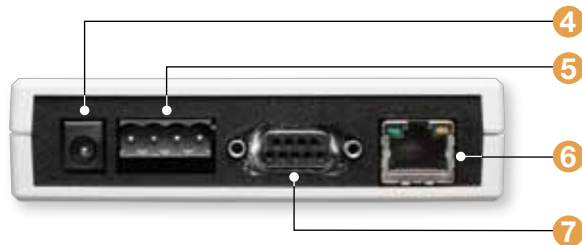
Auxiliary repeater

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[Download high resolution product image](#)

### Explanation of features



RadioRA 2 main repeater front view



RadioRA 2 main repeater bottom view

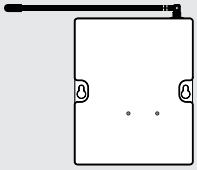


RadioRA 2 auxiliary repeater bottom view

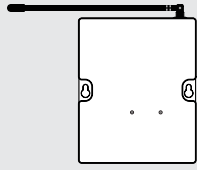
#### Features

<p><b>1</b> Repeater Status LEDs</p>	<ul style="list-style-type: none"> <li>Displays the status of the repeaters in the system</li> </ul>	<p><b>4</b> Power jack</p>	<ul style="list-style-type: none"> <li>Powered by 9V DC adapter (included)</li> </ul>
<p><b>2</b> RF and wired LEDs</p>	<ul style="list-style-type: none"> <li>Displays the transmit/receive activity on the RF and wired links (Green = Tx, Orange = Rx)</li> </ul>	<p><b>5</b> Wired repeater link terminal blocks</p>	<ul style="list-style-type: none"> <li>Maximum 1000 ft (305 m)</li> </ul>
<p><b>3</b> Test and Add buttons</p>	<ul style="list-style-type: none"> <li>Press and hold to enter the system into Test mode or Add mode</li> </ul>	<p><b>6</b> RJ145 port (Ethernet)</p>	<ul style="list-style-type: none"> <li>Used for programming and integration</li> <li>Maximum 328 ft (100 m)</li> </ul>
		<p><b>7</b> RS232 port</p>	<ul style="list-style-type: none"> <li>Used for integration only</li> <li>Maximum 50 ft (15 m)</li> </ul>

## Available models



Main repeater



Auxiliary repeater

## Model numbers

### Repeaters

---

Main repeater	RR-MAIN-REP-WH
Main repeater for Brazil	RR-MAIN-REP-WHBA
Auxiliary repeater	RR-AUX-REP-WH
Auxiliary repeater for Brazil	RR-AUX-REP-WHBA

---

Compatible with RadioRA 2 system.

For specific voltage by country information  
refer to voltage chart on pg. 458







## Features and capacities

- Use with visor control transmitter (see pg. 182) to control lights, shades, and other equipment from the car with just a touch of a button
- Up to ten visor control transmitters can be used with one visor control receiver
- Receiver includes 2 Contact Closure Inputs (CCI) for integration with other systems, one CCI for security systems, and four Contact Closure Outputs (CCO) to control garage doors, motorized gates, etc.
- A RadioRA 2 system can have up to 100 devices per main repeater, and up to two main repeaters per system (requires qualification)
- Receiver can be programmed to control up to 6 scenes
- Available exclusively in White (WH)

## Dimensions and mounting

- Mount receiver on a wall, ceiling or flat surface using the two #6 (M3) screws provided
- Clip transmitter to a vehicle's visor
- Width: 4.25 in (108 mm)
- Height: 5.25 in (133 mm)
- Depth: 1.06 in (27 mm)

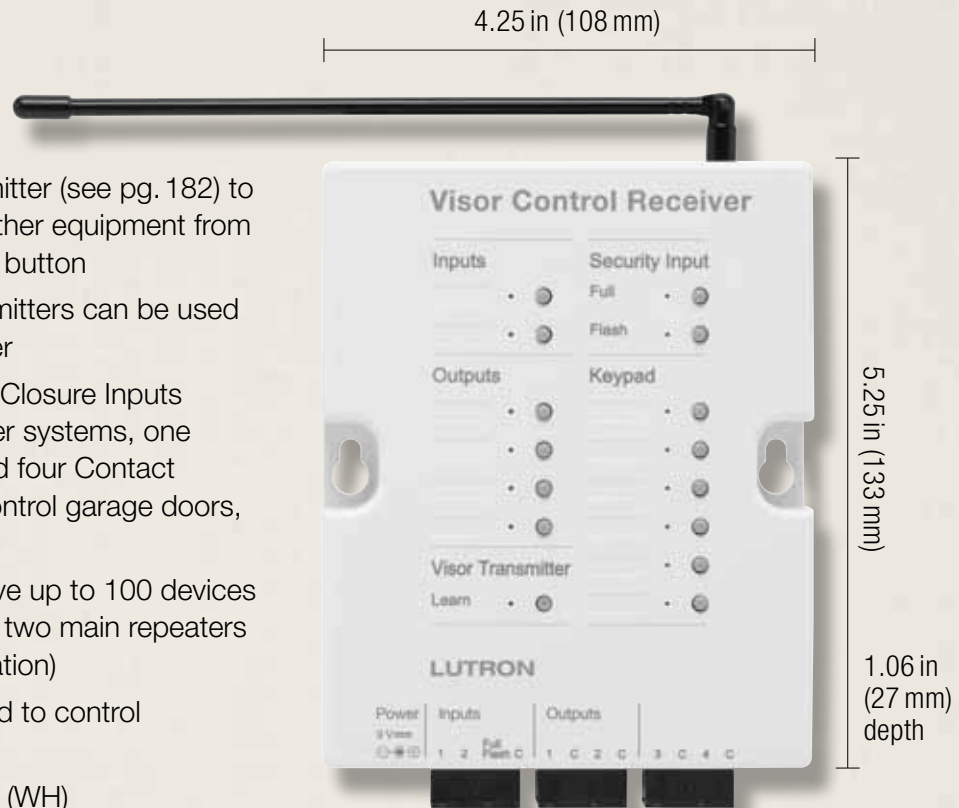
## Communication and wiring

- Communicates with RadioRA 2 visor control transmitter via Lutron® reliable Clear Connect® Radio Frequency (RF) technology on 390 MHz band and all other devices on 434 MHz
- Requires 120V source for low-voltage plug-in power supply

## Compatible transmitting device



RadioRA 2 visor control transmitter (available separately, see pg. 182)

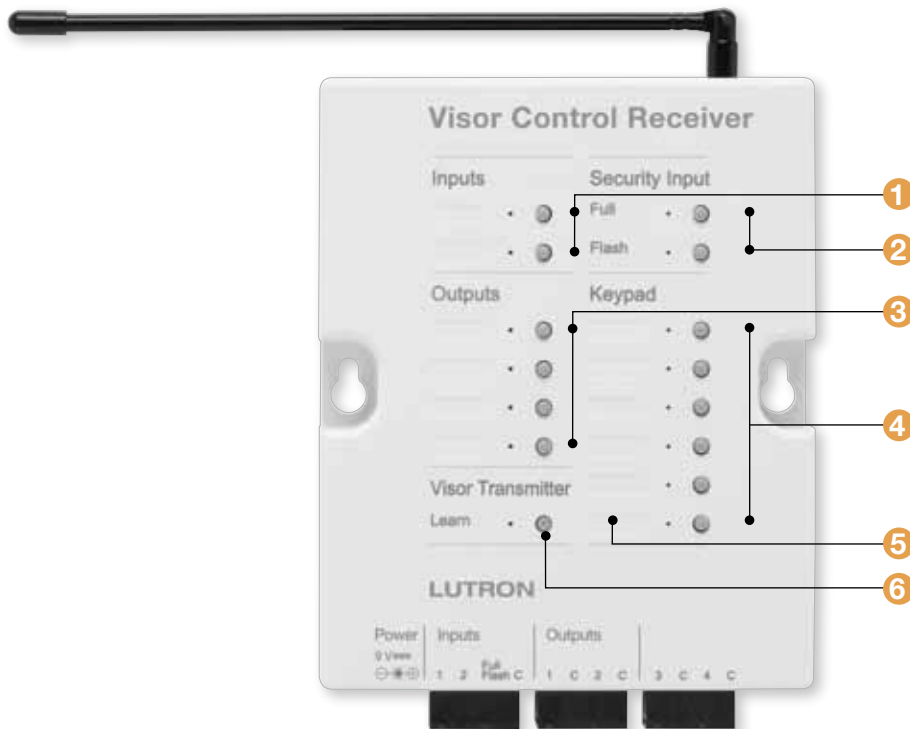


Shown above: RadioRA 2 visor control receiver (RR-VCRX-WH)



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[Download high resolution product image](#)

### Explanation of features



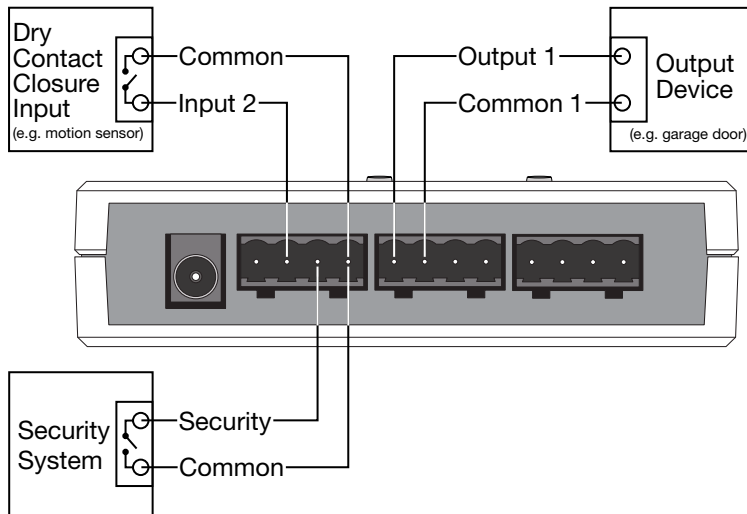
RadioRA 2 visor control receiver



#### Features

<b>1</b> Input buttons	<ul style="list-style-type: none"> <li>Press to test CCI programming</li> </ul>	<b>6</b> Learn button	<ul style="list-style-type: none"> <li>Press and hold for three seconds to enter learn mode—learn any button from transmitter to receiver</li> </ul>
<b>2</b> Security input buttons	<ul style="list-style-type: none"> <li>Press and hold to test security programming</li> </ul>	<b>7</b> Contact closure terminal blocks	<ul style="list-style-type: none"> <li>Maximum 50 ft (15 m)</li> </ul>
<b>3</b> Output buttons	<ul style="list-style-type: none"> <li>Press to test CCOs</li> </ul>	<b>8</b> Power jack	<ul style="list-style-type: none"> <li>Powered by 9V DC adapter (supplied)</li> </ul>
<b>4</b> Keypad buttons	<ul style="list-style-type: none"> <li>Press to test keypad programming</li> </ul>		
<b>5</b> Labels	<ul style="list-style-type: none"> <li>Place pre-printed or custom labels in depression to identify keypads/inputs/outputs</li> </ul>		

### Wiring overview



## Model numbers

### Receiver

Visor control receiver

RR-VCRX-WH

Compatible with RadioRA 2 system.

## Features and capacities

- Connects to mechanical HVAC equipment using standard HVAC terminal strip (24 V AC)
- Ability to adjust heating and cooling systems any time of day with manual button press or timeclock input
- Available exclusively in White (WH)
- A RadioRA 2 system can have up to 100 devices per main repeater, and up to two main repeaters per system (requires qualification)

## Dimensions and mounting

- Width: 4.25 in (108 mm)
- Height: 5.25 in (133 mm)
- Depth: 1.06 in (27 mm)
- Mount on a wall, ceiling or flat surface using the two #6 (M3) screws provided

## Communication and wiring

- Communicates via Lutron's Clear Connect® Radio Frequency (RF) technology to other wireless devices
- Operates at 434 MHz band
- Must be located within 30 ft (9 m) of a main or auxiliary repeater
- Wires to and is powered by HVAC equipment using standard 24 V relay connections
- Requires one wired backup temperature sensor (included)

## Related components



Wireless wall-mount temperature sensor (available separately, see pg. 242)



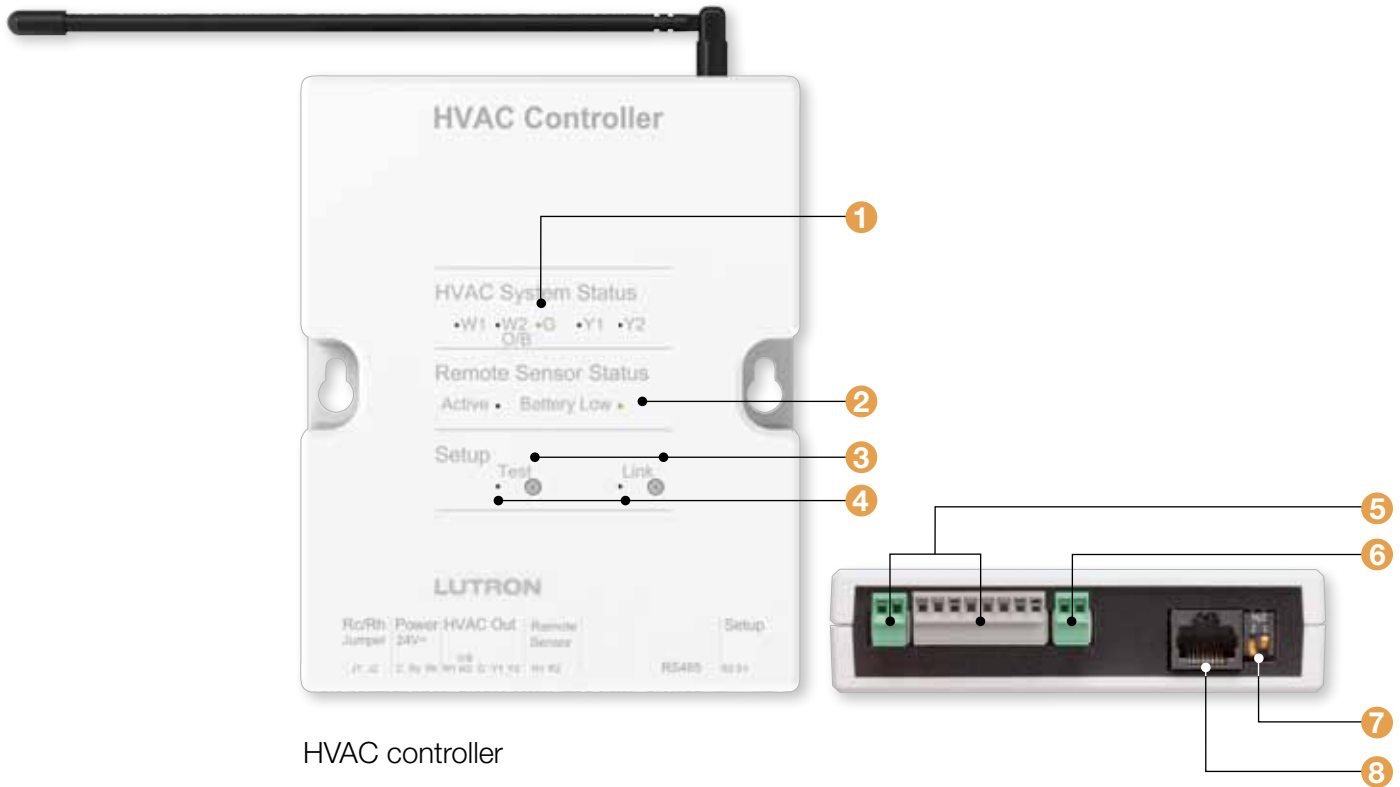
seeTemp® wall control (available separately, see pg. 184)



Shown above: HVAC controller available only in a package

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[Download high resolution product image](#)

## Explanation of features



HVAC controller

### Features

<p><b>1</b> HVAC system status LEDs</p>	<ul style="list-style-type: none"> <li>Indicate the status of the control outputs—when an LED is lit the corresponding relay is closed</li> </ul>	<p><b>5</b> HVAC equipment connections</p>	<ul style="list-style-type: none"> <li>24 V HVAC relays to control HVAC equipment</li> </ul>
<p><b>2</b> Temperature sensor status LEDs</p>	<ul style="list-style-type: none"> <li>Battery low—indicates low battery for at least one sensor</li> <li>Active—LED is lit when at least one sensor is active</li> </ul>	<p><b>6</b> Wired sensor input</p>	<ul style="list-style-type: none"> <li>Wired connection for backup temperature sensor</li> </ul>
<p><b>3</b> Test and link buttons</p>	<ul style="list-style-type: none"> <li>Used to set up and troubleshoot the RF connection</li> </ul>	<p><b>7</b> System type DIP switches</p>	<ul style="list-style-type: none"> <li>Must be configured to correctly control attached HVAC equipment</li> </ul>
<p><b>4</b> Test and link LEDs</p>	<ul style="list-style-type: none"> <li>Flashes green to indicate that the system is in Test mode or Link mode</li> </ul>	<p><b>8</b> RJ145 port (Ethernet)</p>	<ul style="list-style-type: none"> <li>Used for programming and integration</li> <li>Maximum 328 ft (100 m)</li> </ul>

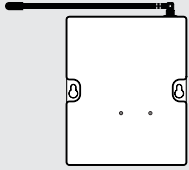


Air duct sensor



Flush mount sensor

## Available models



HVAC controller

## Model numbers

### HVAC controller packages

---

System package includes: LR-HVAC-PKG-WH

1 HVAC controller\*\*

1 seeTemp® wall control (°F) (WH)

1 wireless temperature sensor (SW)

1 wired return air duct sensor

System package includes: LR-HVAC-PKG-C-WH

1 HVAC controller\*\*

1 seeTemp wall control (°C) (WH)

1 wireless temperature sensor (SW)

1 wired return air duct sensor

System package includes: LR-HVAC-INT-**XX**\*

1 HVAC controller\*\*

1 wireless temperature sensor\*

1 wired return air duct sensor

System package includes: LR-HVAC-INT-FLSH

1 HVAC controller\*\*

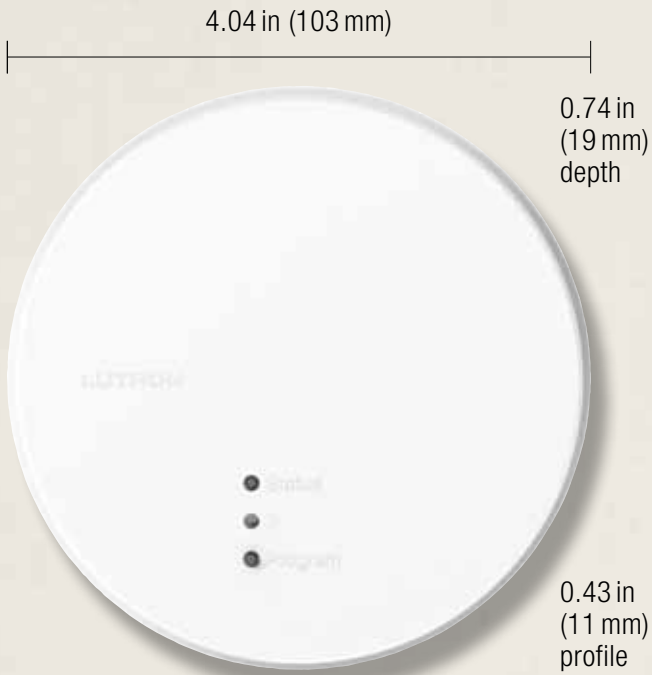
1 wired flush mount sensor\*\*

---

Compatible with RadioRA 2 system.

\* Available in Snow (SW) and Midnight (MN).

\*\* Only available in White (WH).



Shown above: QS sensor module—434 MHz (QSM2-4W-C)



## Features and capacities

- Integrates Lutron® wireless and wired sensors and controls through the QS communication link to Energi Savr Node™ modules and GRAFIK Eye® QS main units, and Sivoia® QS shades and draperies
- Connects to up to four Lutron wired sensors or controls—occupancy sensors, daylight sensors, EcoSystem® infrared (IR) receivers, EcoSystem wallstations or Pico® wired controls (does not apply to wireless only models)
- Connects to up to ten of each type of wireless device—occupancy/vacancy sensors, daylight sensors or Pico wireless controls
- Operates at 24 V DC

## Dimensions and mounting

- Diameter: 4.04 in (103 mm)  
Depth: 0.74 in (19 mm)  
Profile: 0.43 in (11 mm)
- Ceiling-mount where visible from inside the space to guarantee wireless range

## Communication and wiring

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other Lutron wireless devices
- RF range: 60 ft (18 m) line of sight, or 30 ft (9 m) through walls
- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- A QS system can have up to 100 QS devices; each QS sensor module counts as one device toward the limit
- Uses three power draw units on the QS link, not including wired inputs
- Models available for 434 MHz, 434 limited channel MHz 865 MHz, 868 MHz and 868 limited channel MHz

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## Model numbers

### Wired and wireless inputs

North America (434 MHz)	QSM2-4W-C
For J-box mounting	QSM2-4W-J
European Union and U.A.E.(868 MHz)	QSM3-4W-C
China and Singapore (868 MHz limited channel)	QSM4-4W-C
Hong Kong (434 MHz limited channel)	QSM7-4W-C

### Wireless inputs only

North America (434 MHz)	QSM2-XW-C
For J-box mounting	QSM2-XW-J
European Union and U.A.E.(868 MHz)	QSM3-XW-C
China and Singapore (868 MHz limited channel)	QSM4-XW-C
India (865 MHz)	QSM5-XW-C
Hong Kong (434MHz limited channel)	QSM7-CW-C

### Wired input only

Wired input only, non-RF	QSMX-4W-C
--------------------------	-----------

Compatible with GRAFIK Eye® QS and Energi Savr Node™ Systems.

For specific radio frequency information by country, refer to radio frequency chart on pg. 461.





Shown above: Contact closure input/output interface (QSE-IO)

### Features and capacities

- Provides five inputs and five dry contact closure outputs
- Compatible with motion/occupancy sensors, timeclocks, motorized projection screens, skylights, window shades, movable walls, A/V equipment and security systems that have contact-closure input/output
- Outputs provide both normally open (NO) and normally closed (NC) contacts
- Five status LEDs light when associated output is active (on)
- Outputs programmable for both momentary (pulse) and maintained (latched)
- Operates at 24V DC

### Dimensions and mounting

- Width: 4.26 in (108 mm)  
Height: 5.26 in (134 mm)  
Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an A/V rack, or in an enclosure if conduit is desired
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

### Related components



Rack unit  
(available separately,  
see pg. 429)



Enclosure  
(available separately,  
see pg. 428)

[Download specification submittal](#)

## Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- Uses three power draw units on the QS link
- A QS system can have up to 100 devices; each QS contact closure input/output interface counts as one device toward the limit

## Functionality and operating modes

- Using the inputs, contact closures in other equipment can operate compatible primary controls to:
  - Select scenes
  - Adjust scenes to reflect status of movable walls (partitioning)
  - Toggle any combination of zones in the system between Off and a configurable preset value
  - Turn lights on or off and/or move shades based on room occupancy
  - Perform special functions such as sequencing, panic, control lockout, timeclock disable, hotel mode and scene lock-out
- Using the outputs, scene and/or zone changes in control units can:
  - Trigger outputs to control other equipment
  - Provide status feedback to other equipment
- Using the inputs, contact closures in other equipment can operate Sivoia® QS window treatments to:
  - Open or close
  - Raise/lower or stop
  - Select one of three adjustable presets
- Using the outputs, key presses on QS window treatment keypads or GRAFIK Eye® QS window treatment buttons can:
  - Trigger outputs to other motorized window treatment equipment

## Model numbers

### Interface

---

QS Contact closure interface	QSE-IO
------------------------------	--------

---

Compatible with GRAFIK Eye QS and Energi Savr Node™ systems.



Shown above: RS232/Ethernet interface (QSE-CI-NWK-E)

### Features and capacities

- Interface allows integration with a touch screen, PC, A/V systems, or other digital equipment that supports RS232, or TCP/IP communication over Ethernet
- Control and monitor GRAFIK Eye® QS, Sivoia® QS, Energi Savr Node™ and other products on the wired QS link
- Monitor lighting scenes, levels, and shade positions
- Operates at 24V DC

### Dimensions and mounting

- Width: 4.26 in (108 mm)  
Height: 5.26 in (134 mm)  
Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an A/V rack or in an enclosure if conduit is desired
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

### Related components



Rack unit  
(available separately,  
see pg. 429)



Enclosure  
(available separately,  
see pg. 428)

[Download specification submittal](#)

## Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- Up to ten QS RS232/Ethernet interfaces are allowed per QS link
- A QS system can have up to 100 QS devices; the QS RS232/Ethernet interface counts as one device toward the limit
- Uses two power draw units on the QS link

## Functionality and operating modes

- Control: scene selection, scene lockout, zone lockout, sequencing, zone raise/lower, master raise/lower, set shade group level, simulate button press/release
- Monitoring: current scene, zone level, button presses, shade group levels
- For a full list of features refer to the Lutron Integration Protocol Guide (P/N 040-249)

## Model numbers

### Interfaces and mounting units

#### Interfaces

---

QS RS232/Ethernet interface	QSE-CI-NWK-E
-----------------------------	--------------

---

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.



Shown above: DMX control interface (QSE-CI-DMX)

### Features and capacities

- Allows zones on a GRAFIK Eye® QS main unit to control DMX512-controlled devices
- Any zone on the GRAFIK Eye QS main unit can be mapped to either a single DMX512 channel or to three separate DMX512 channels, for RGB/CMYK color-control applications
- Integral RGB/CMY lookup table that maps GRAFIK Eye QS zone intensities to RGB/CMY values (colors)
- DMX512 link terminators as needed at both ends of the DMX512 link (available from Lutron®, part number LT-1)
- Each interface can control a maximum of 32 DMX512 channels
- Operates at 24V DC

### Dimensions and mounting

- Width: 4.26 in (108 mm)  
Height: 5.26 in (134 mm)  
Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an AV rack or in an enclosure if conduit is desired
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

### Related components



Rack unit  
(available separately,  
see pg. 429)



Enclosure  
(available separately,  
see pg. 428)

[Download specification submittal](#)

## Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- Connects to theatrical equipment via DMX cable (P/N GRX-CBL-DMX-250 or GRX-CBL-DMX-500, sold separately)
- One DMX512 output control interface per QS link; counts toward the 100 QS device limit
- Uses two power draw units on the QS link

## Model numbers

### Interfaces and mounting units

#### Interfaces

---

QS DMX interface	QSE-CI-DMX
------------------	------------

---

Compatible with GRAFIK Eye QS system.



## Dimensions and mounting

- Width: 5.00in (127 mm)  
Height: 7.75in (197 mm)  
Depth: 2.50in (64 mm)
- Mounts to a standard 4in (102mm) x 4in (102mm) junction box
- Approved for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22(C)

## Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wiring
- Sense voltage input to the emergency lighting interface must be from the normal (non-essential) power source
- Separate 24V DC power supply must be used with an Energi Savr Node™ unit
- One emergency lighting interface can be used with up to 32 Energi Savr Node modules and GRAFIK Eye® QS main units

## Model numbers

### Interfaces

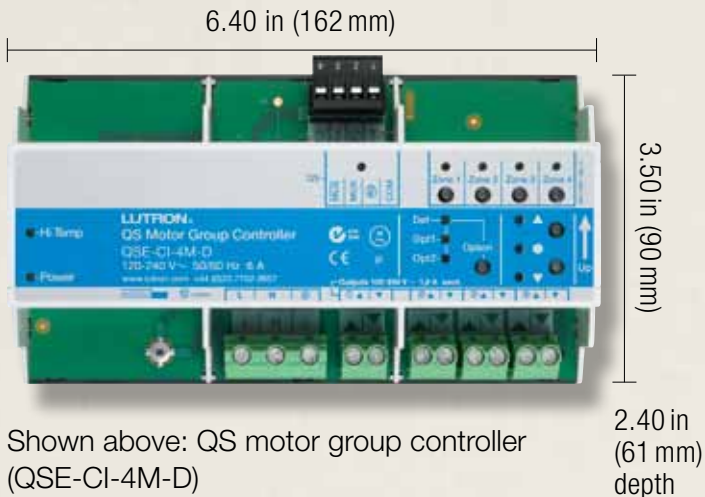
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Emergency lighting interface	LUT-ELI-3PH
------------------------------	-------------

---

Compatible with GRAFIK Eye QS and Energi Savr Node systems.





Shown above: QS motor group controller (QSE-CI-4M-D)

## Features and capacities

- Provides seamless integration of QS stand-alone systems with AC blinds, shades, louvers, projection screens, or any compatible AC motor
- Can be controlled by the GRAFIK Eye® QS main unit, seeTouch® QS keypad, or Pico® wireless control
- Provides four independently controllable AC raise/lower outputs from one common AC input feed; 1.5A maximum motor load per channel, 6A maximum total input current
- Operating voltage: 120–240V (CE) @ 50/60Hz

## Dimensions and mounting

- Width: 6.40 in (162 mm)  
Height: 3.50 in (90 mm)  
Depth 2.40 in (61 mm)
- Mounts to standard DIN-rail (width = 9.50 mm)
- 9 DIN-wide device

## Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- Requires QS sensor module for wireless communication
- A QS system can have up to 100 devices and 100 zones; each QS motor group controller counts as four zones and one device on the QS link
- Does not provide nor consume power draw units on QS link

[Download specification submittal](#)

## Model numbers

QS motor group controller (DIN-rail)

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QS motor group controller (DIN-rail)    QSE-CI-4M-D  
120–240 V (CE)

---

Compatible with GRAFIK Eye® QS and  
Energi Savr Node™ systems.



Shown actual size: Energi Savr Node programming interface (QSE-CI-AP-D)

## Features and capacities

- Program all Energi Savr Node modules connected to the same QS link as the Energi Savr Node programming interface using the Energi Savr Node app on the Apple® iPod touch®, iPad®, or iPhone® mobile digital devices<sup>1</sup>
- Requires wireless router (by others)
- Operates at 24V DC

## Dimensions and mounting

- Width: 2.10 in (53 mm)
- Height: 3.50 in (88 mm)
- Depth: 2.40 in (60 mm)
- 3 DIN wide
- DIN-rail surface mount or junction box
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

## Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- Connect a WiFi router to the Energi Savr Node programming interface for Apple iPod touch, iPad or iPhone mobile digital device<sup>1</sup> programming
- A QS system can have up to 100 QS devices; each Energi Savr Node programming interface counts as one device toward the limit
- Uses two power draw units on the QS link

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<sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

## Model numbers

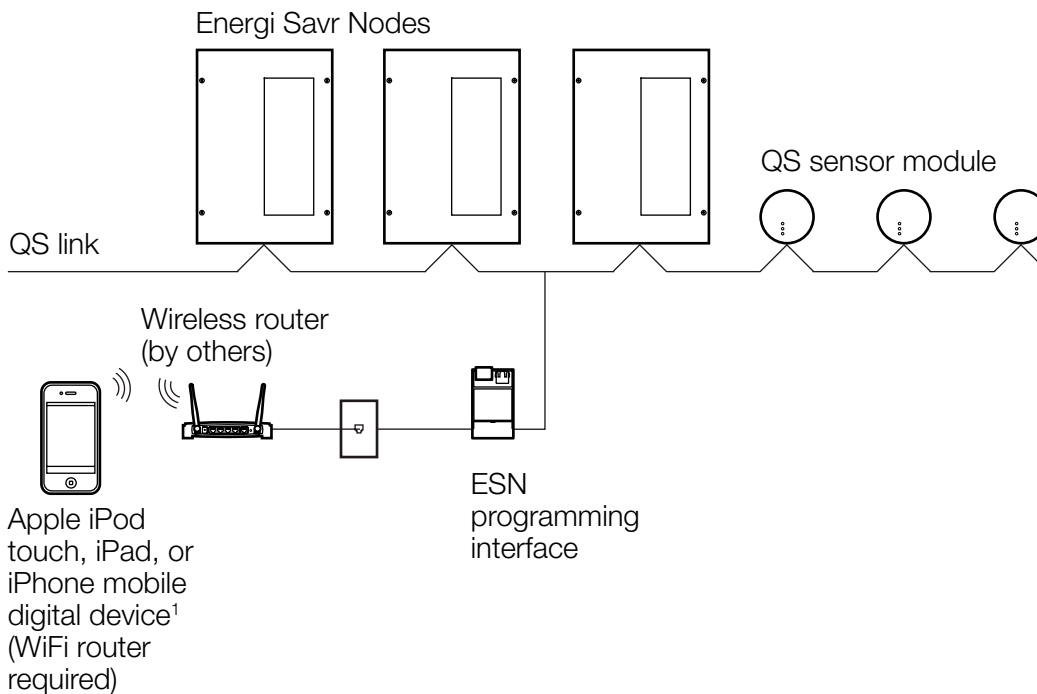
### Programming interfaces

Programming interface	QSE-CI-AP-D
-----------------------	-------------

Required when programming the following systems with software for Apple® iPod touch®, iPad®, or iPhone® mobile digital device<sup>1</sup>:

- Energi Savr Node for 0–10V/Energi Savr Node with Softswitch®
- Energi Savr Node for 0–10V/ Energi Savr Node for Switching (DIN-rail)
- Energi Savr Node Phase Adaptive

### Typical wiring overview



<sup>1</sup>iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

# Power interfaces

A power interface is a device wired between a dimmer and a lighting load. An interface provides additional control, increases power/wattage capacity above the dimmer capacity, and it provides voltage and control signals.

The power interfaces addressed in this guide are specific to each country's voltage requirements. Please confirm that the products you have selected match the required voltages by country on pg. 458.



## **Phase-adaptive power module**

pg. 294



## **3-wire fluorescent power module**

pg. 296



## **Phase-adaptive power module with 3-wire fluorescent input**

pg. 298



## **Switching power module**

pg. 300



**Power booster**  
pg. 302



**Pulse width modulation interface**  
pg. 310



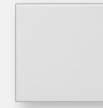
**EcoSystem® to 0-10V interface**  
pg. 318



**Electronic low-voltage interface**  
pg. 304



**EcoSystem® dimming power module**  
pg. 312



**Synthetic minimum load interface**  
pg. 320



**Fluorescent dimming ballast interface**  
pg. 306



**EcoSystem switching power module**  
pg. 314



**0-10V interface**  
pg. 308









**EcoSystem fixture module**  
pg. 316



Shown above: Phase-adaptive power module (PHPM-PA-120-WH)

## Direct lighting loads

-  Incandescent/halogen
-  Electronic low-voltage
-  Magnetic low-voltage
-  Neon/cold cathode
-  Tu-wire<sup>®</sup> fluorescent
-  CFL/LED (screw-base)<sup>1</sup>

## Operating voltages <sup>2</sup>

- Models available to accept 120V or 100V (Japan) control power
- Models available for 120V, 120–277V or 100–200V load power

<sup>1</sup> Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for a complete list of LEDs compatible with this module.

<sup>2</sup> Contact Lutron for model availability for 277V control power

[Download specification submittal](#)

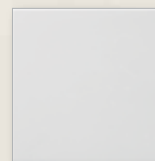
## Features and capacities

- Provides 16A capability for a zone on a compatible control unit to dim a fully loaded circuit of lighting
- Automatically detects load types and selects leading-edge or trailing-edge dimming for low-voltage transformers (electronic/magnetic)
- Provides power and dimming for one zone
- Up to three power modules may be wired on a single zone
- Not for use with non-dimmable loads
- Minimum load requirement is 10W

## Dimensions and mounting

- Width: 6.30 in (160 mm)  
Height: 5.10 in (130 mm)  
Depth: 1.20 in (31 mm)  
Profile: 1.40 in (36 mm)
- Can be surface or recess mounted
- Mount in a 2-gang U.S. wallbox 3.50 in (89 mm) deep or in a 4 in (102 mm) x 4 in (102 mm) junction box, 2.10 in (53 mm) deep
- Requires incoming power feed wires, incoming control wires and outgoing load wires
- Approved and listed for installation in spaces designed for environmental air handling per 2011 National Electrical Code<sup>®</sup> (NEC) article 300.22 (c)

## Related components:



Power booster for 220–240V applications (available separately, see pg. 302)

## Communication and wiring

- Separate neutrals are required for load circuit — no common neutrals
- The load breaker may be on a different phase than the control breaker
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

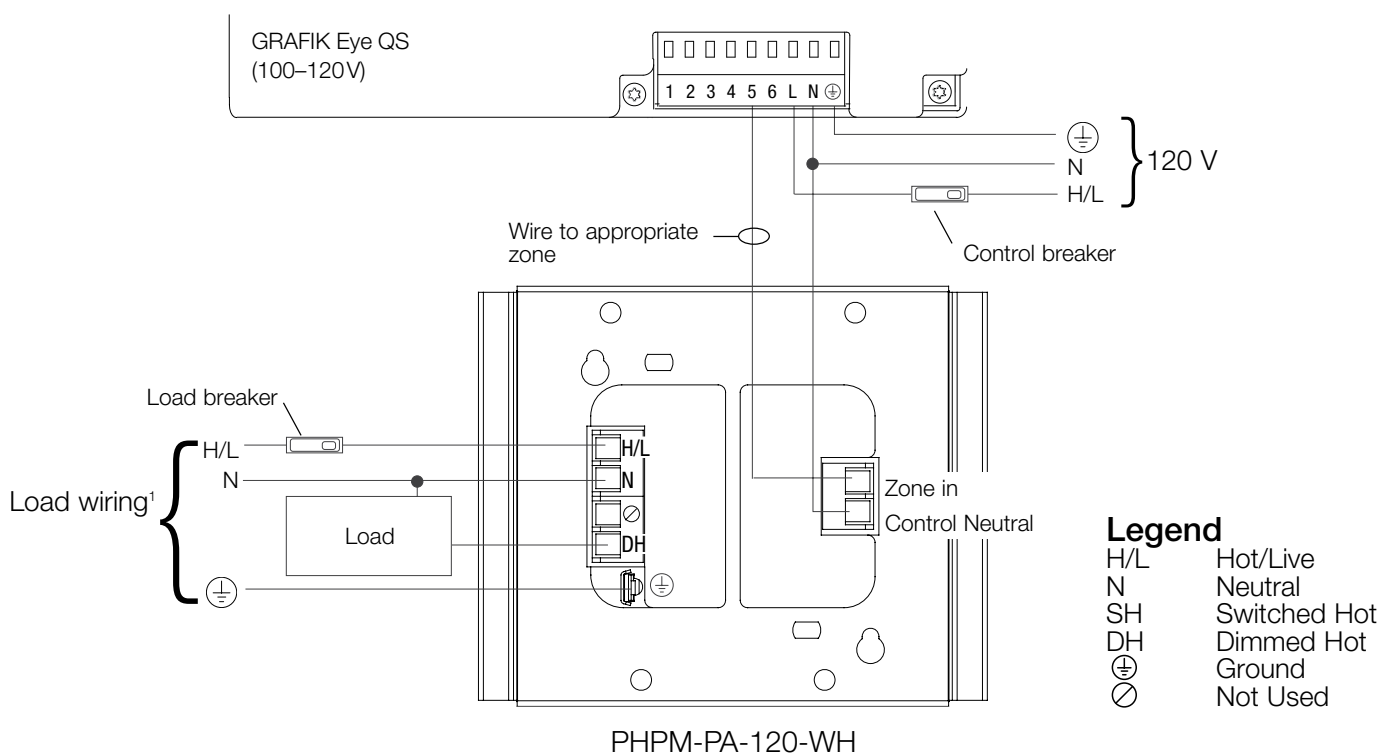
## Model numbers

### Modules

Phase-adaptive 120V	PHPM-PA-120-WH
Dual voltage phase-adaptive 120–277V	PHPM-PA-DV-WH
Phase-adaptive 100–200V for Japan	PHPM-PA-JA-WH

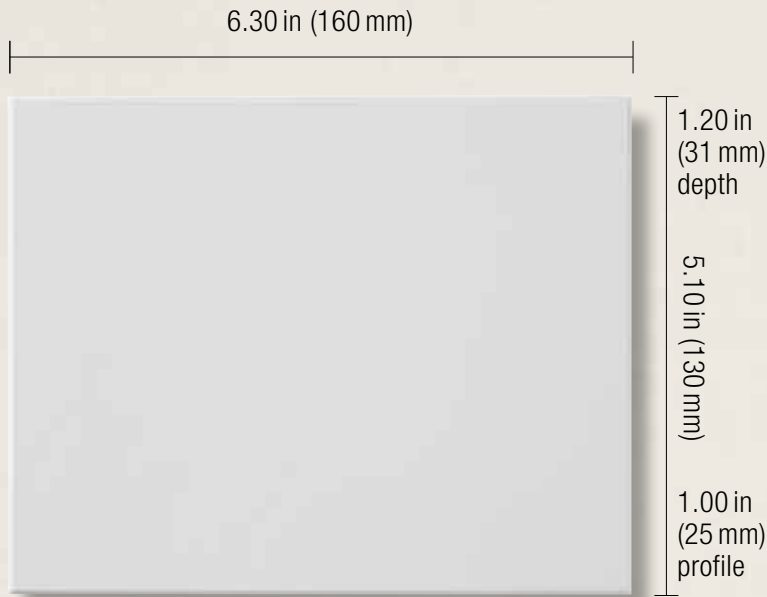
Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, and RadioRA® 2 hybrid keypad.

## Typical multiple power feed wiring with a GRAFIK Eye QS system




<sup>1</sup>Load feed: 120V for PHPM-PA-120-WH; 120V–277V for PHPM-PA-DV-WH; 100V–200V for PHPM-PA-JA-WH





Shown above: 3-wire fluorescent power module (PHPM-3F-120-WH)

## Direct lighting loads

 Fluorescent/LED (3-wire)

## Operating voltages\*

- Models accept for 120V control power only
- Models available for 120V or 120–277V load power

## Features and capacities

- Provides 16A capability for a zone on a compatible control unit to dim fluorescent and LED lights that have Lutron 3-wire line-voltage control electronic dimming ballasts (Hi-lume®, Hi-lume 3D, EcoSystem®) or LED drivers (Hi-lume A-Series)
- Provides power and dimming for one zone
- Utilizes Softswitch® arcless switching technology
- Up to three power modules may be wired on a single zone

## Dimensions and mounting

- Width: 6.30 in (160 mm)  
Height: 5.10 in (130 mm)  
Depth: 1.20 in (31 mm)  
Profile: 1.00 in (25 mm)
- Can be surface or recess mounted
- Mount in a 2-gang U.S. wallbox 3.50 in (89 mm) deep or in a 4 in (102 mm) x 4 in (102 mm) junction box, 2.10 in (53 mm) deep
- Requires incoming power feed wires, incoming control wires and outgoing load wires
- Approved and listed for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

\* Contact Lutron for model availability for 277 control power

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## Model numbers

### Communication and wiring

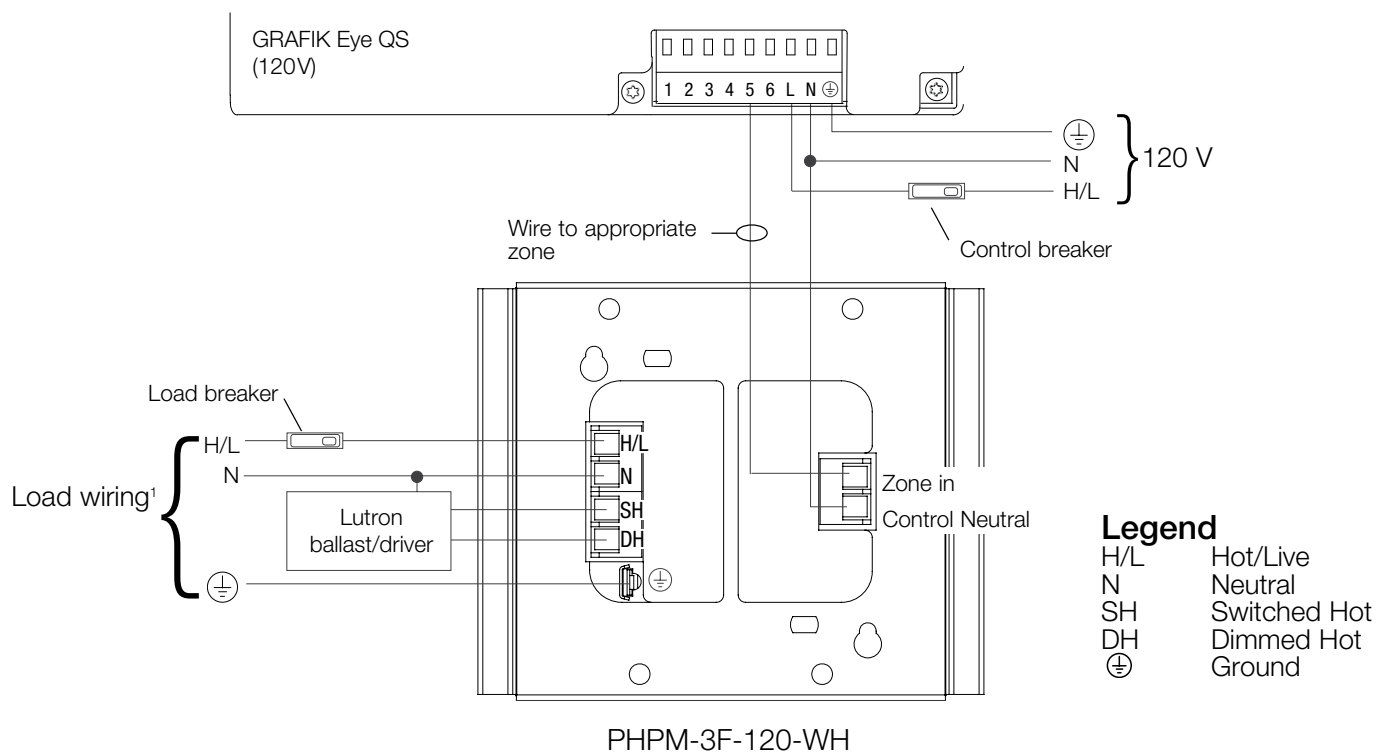
- Separate neutrals are required for load circuit — no common neutrals
- The load breaker may be on a different phase than the control breaker
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

### Modules

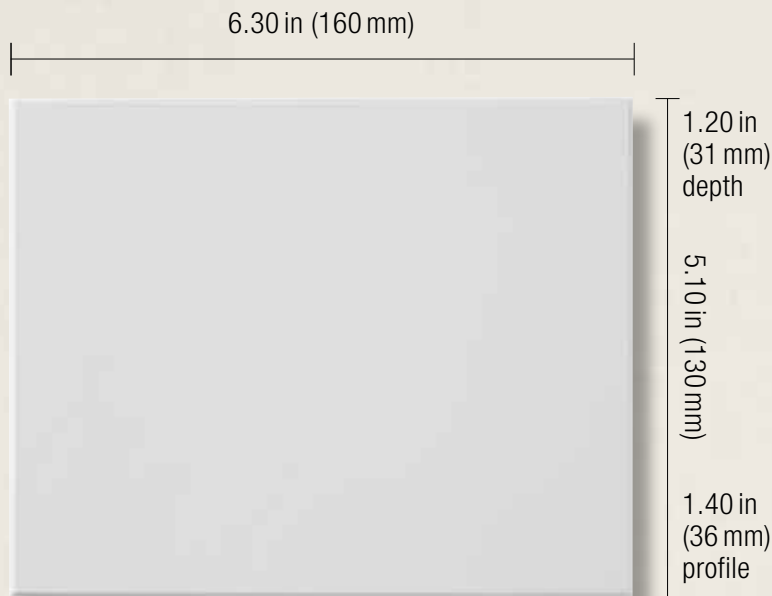
3-wire fluorescent 120V	PHPM-3F-120-WH
Dual voltage 3-wire fluorescent 120–277V	PHPM-3F-DV-WH

Compatible with Maestro Wireless® dimmer, GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem® and RadioRA® 2 dimmer/hybrid keypad.

### Typical multiple power feed wiring with a GRAFIK Eye QS system









<sup>1</sup>Load feed: 120V for PHPM-3F-120-WH; 120V–277V for PHPM-3F-DV-WH



Shown above: Phase-adaptive power module with 3-wire fluorescent input (PHPM-WBX-120-WH)

### Direct lighting loads

-  Incandescent/halogen
-  Electronic low-voltage
-  Magnetic low-voltage
-  Neon/cold cathode
-  Tu-wire<sup>®</sup> fluorescent
-  CFL/LED (screw-base)\*

### Operating voltages

- Models accept 120V control power only
- Models available for 120V or 120–277V load power

### Features and capacities

- When connected to a 20A circuit breaker, provides capacity on a compatible control unit for full 16A load of lighting
- Automatically detects load types and selects leading-edge or trailing-edge dimming for low-voltage transformers (electronic/magnetic)
- Provides power and dimming for one zone
- Up to three power modules may be wired on a single zone
- Not for use with non-dimmable loads
- Minimum load on power module is 10W

### Dimensions and mounting

- Width: 6.30 in (160 mm)  
Height: 5.10 in (130 mm)  
Depth: 1.20 in (31 mm)  
Profile: 1.40 in (36 mm)
- Can be surface or recess mounted
- Mount in a 2-gang U.S. wallbox 3.50 in (89 mm) deep or in a 4 in (102 mm) x 4 in (102 mm) junction box, 2.10 in (53 mm) deep
- Requires incoming power feed wires, incoming control wires and outgoing load wires
- Approved and listed for installation in spaces designed for environmental air handling per 2011 NEC<sup>®</sup> article 300.22 (c)

\* Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for a complete list of LEDs compatible with this module.

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**Communication and wiring**

- Separate neutrals are required for load circuit — no common neutrals
- The load breaker may be on a different phase than the control breaker
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

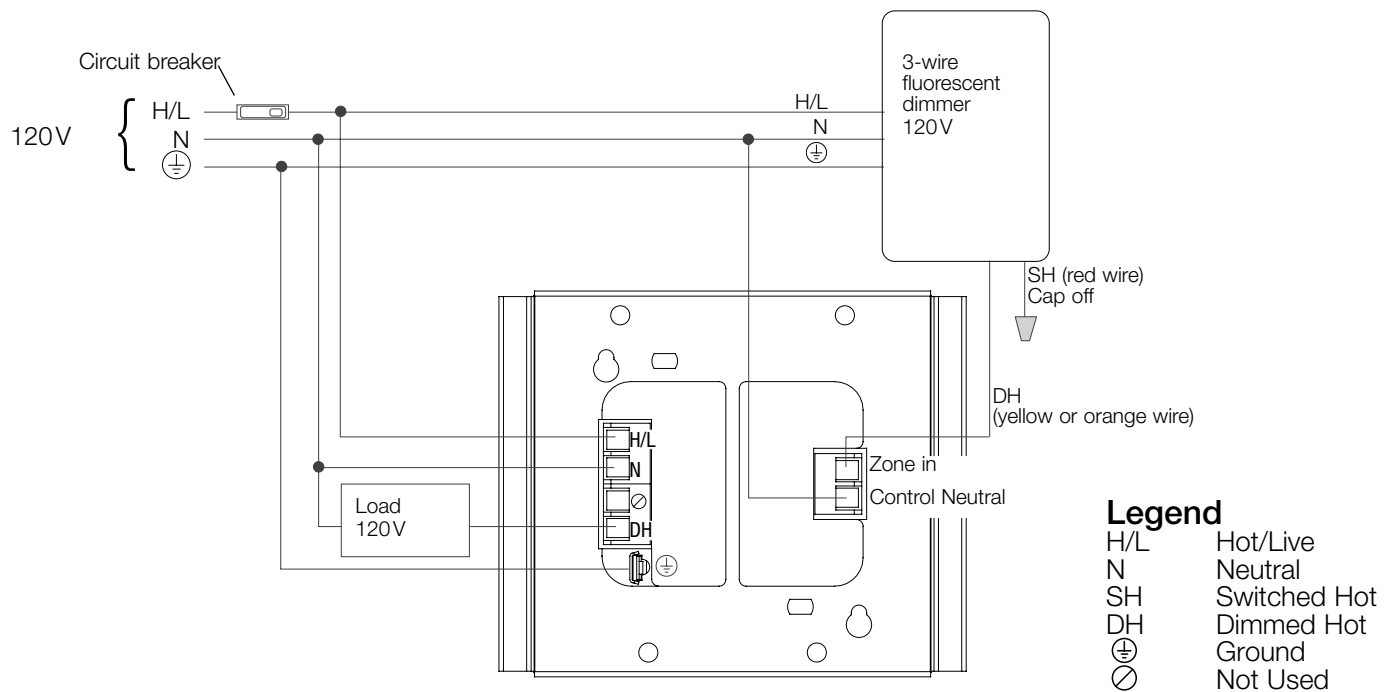
**Model numbers**

**Modules**

Phase-adaptive with 3-wire fluorescent input 120V	PHPM-WBX-120-WH
Dual voltage phase-adaptive with 3-wire fluorescent input 120–277V	PHPM-WBX-DV-WH

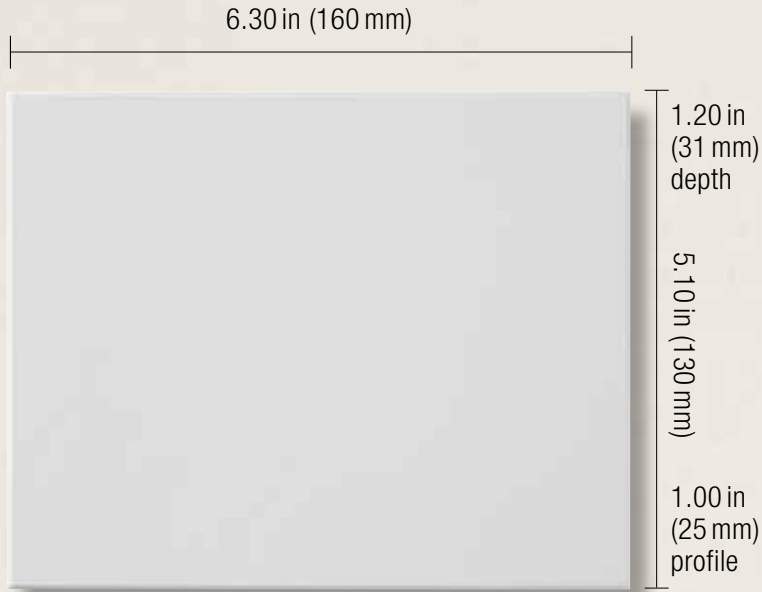
Compatible with Maestro Wireless® dimmer, EcoSystem® dimming module and RadioRA® 2 dimmer.

**Typical single power feed wiring with a 3-wire fluorescent dimmer**



For additional wiring diagrams, see the specification submittal on [www.lutron.com](http://www.lutron.com)

\* Load feed: 120V for PHPM-WBX-120-WH; 120V–277V for PHPM-WBX-DV-WH



Shown above: Switching power module (PHPM-SW-DV-WH)

## Direct lighting loads for switching

- Non-dim lighting
- Motor loads:
  - 1/2 HP at 120V
  - 1 HP at 277V
- Fan loads

## Operating voltages

- Models available to accept 120V or 100V (Japan) control power
- Model available for 120–277V or 100V–200V load power

## Features and capacities

- Provides 16A capability for a zone on a compatible control to switch a fully loaded circuit of lighting
- May be used to switch incandescent/halogen, electronic low-voltage, magnetic low-voltage, HID, fluorescent ballasts and neon/cold cathode lighting sources, and LED non-dimmable drivers/sources
- Utilizes Softswitch® arcless switching technology
- Provides power and switching for one zone
- Up to three power modules may be wired on a single zone

## Dimensions and mounting

- Width: 6.30 in (160 mm)
- Height: 5.10 in (130 mm)
- Depth: 1.20 in (31 mm)
- Profile depth: 1.00 in (25 mm)
- Can be surface or recess mounted
- Mount in a 2-gang U.S. wallbox 3.5 in (89 mm) deep or in a 4 in (102 mm) x 4 in (102 mm) junction box, 2.1 in (53 mm) deep
- Requires incoming power feed wires, incoming and outgoing load wires
- Approved and listed for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

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## Communication and wiring

- Separate neutrals are required for load circuit—no common neutrals
- The load breaker may be on a different phase than the control breaker
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

## Model numbers

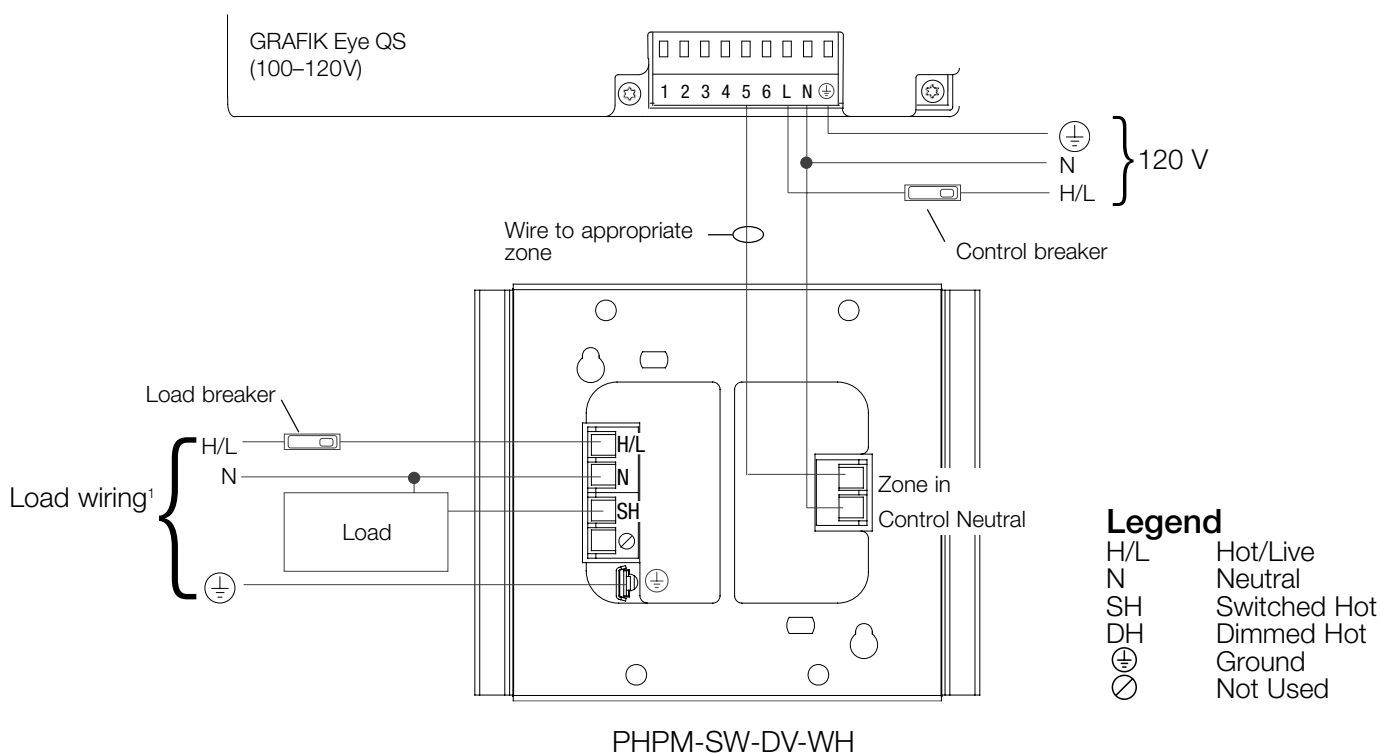
### Modules

Dual voltage-switching      PHPM-SW-DV-WH  
120–277 V

Switching      PHPM-SW-JA-WH  
100V–200V for Japan

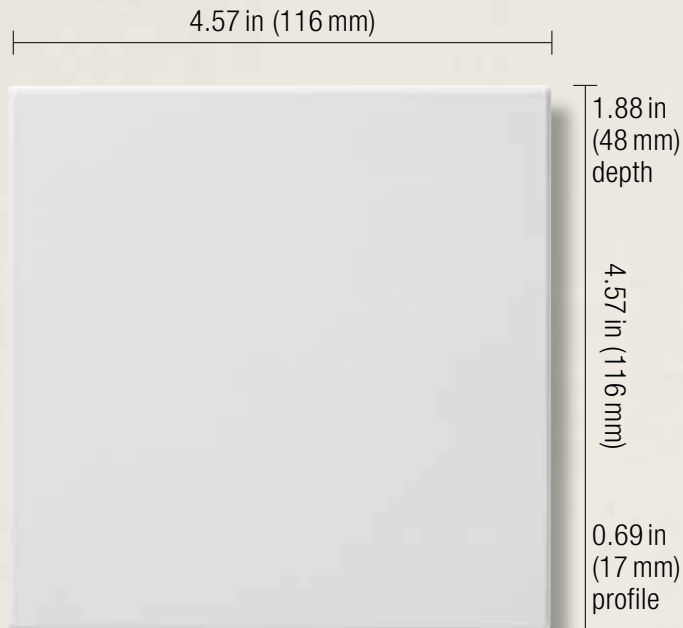
Compatible with Maestro Wireless® switch, GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem® and RadioRA® 2 switch/hybrid keypad and EcoSystem switching power module.

## Typical multiple power feed wiring with GRAFIK Eye QS system








For additional wiring diagrams, see the specification submittal on [www.lutron.com](http://www.lutron.com)

<sup>1</sup>Load feed: 120–277 V for PHPM-SW-DV-WH; 100V or 100–200V for PHPM-SW-JA-WH



Shown above: Power booster (NGRX-PB-CE-WH)

## Direct lighting loads

-  Incandescent/halogen
-  Magnetic low-voltage
-  Tu-wire® fluorescent
-  Neon/cold cathode
-  CFL/LED (screw-base)\*

## Operating voltages

- Models available for 220–240V, 230V(CE) or 100V @ 50/60Hz input power

## Features and capacities

- Provides capability for a zone on a control unit to control a larger load
- Allows the zone to dim or switch a fully-loaded circuit of lighting
- Dims most popular lighting sources and load types
- For 120V application, phase-adaptive power module is recommended, see pg.294
- Two power boosters may be used on a zone to double the capacity

## Dimensions and mounting

- Width: 4.57 in (116 mm)  
Height: 4.57 in (116 mm)  
Depth: 1.88 in (48 mm)  
Profile: 0.69 in (17 mm)
- Can be surface or recess-mounted
- Mount in 2-gang U.S. wallbox 3.50 in (89 mm) deep
- Requires incoming power feed wires and outgoing load wires
- Approved and listed for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

\* Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for a complete list of LEDs compatible with this booster.

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**Communication and wiring**

- Separate neutrals are required for load circuit—no common neutrals
- The load breaker/MCB may be on a different phase than the control breaker/MCB
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

Model numbers

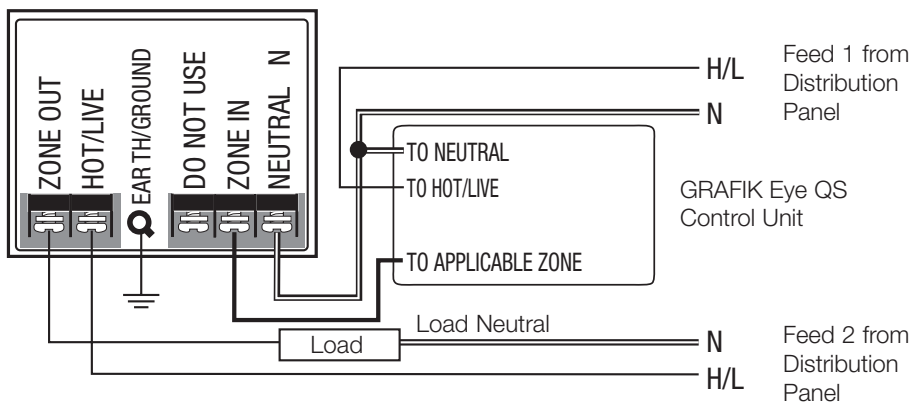
**Boosters**

Power Booster 220–240V 2400W/VA	NGRX-PB-AU-WH
Power Booster 230V (CE) 1200W/VA flush mount with faceplate	NGRX-PB-CE-WH
Power Booster 230V (CE) 1840W/VA surface mount without faceplate	NGRX-PB-CE-WH
Power Booster 100V 1600W/VA for Japan	NGRX-PB-JA-WH

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem and Energi Savr Node phase adaptive (DIN-rail) module.

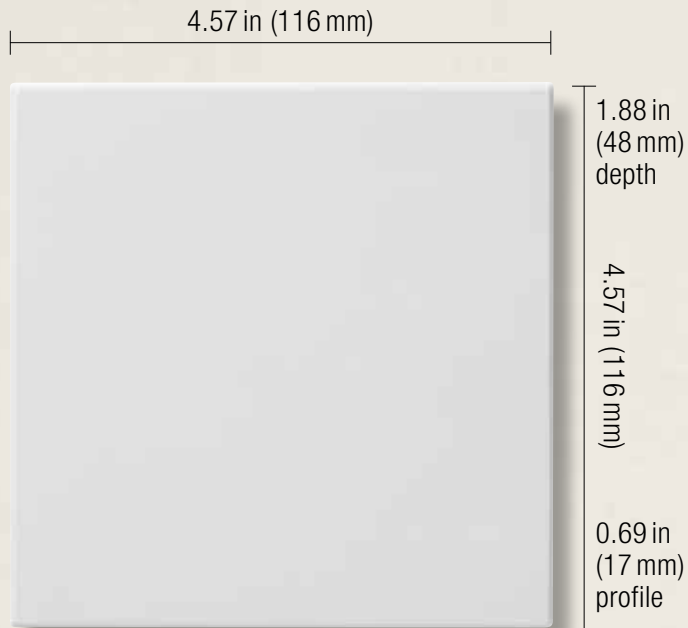
**Dual-feed wiring diagram for NGRX-PB 100V, 120V and 220–240V**

NGRX-PB-WH



For 230V wiring and single-feed wiring, see the specification submittal on [www.lutron.com](http://www.lutron.com)





Shown above: Electronic low-voltage interface (NGRX-ELVI-CE-WH)

## Direct lighting loads

- 🍷 Electronic low-voltage
- 💡/💡 CFL/LED (screw-base)\*

## Operating voltages

- Models available for 220–240V, or 230(CE)

## Features and capacities

- Provides power and up to 1200 watts dimming capacity for one electronic low-voltage zone
- Operates electronic low-voltage lighting; works only with electronic (solid state) low-voltage transformers that are manufacturer approved for reverse phase control dimming
- Incandescent and electronic low-voltage sources may be controlled on same zone; up to 30% of the electronic low-voltage interfaces capacity may be used for incandescent lighting
- For 120V application, phase-adaptive power module is recommended, see pg. 294
- Two electronic low-voltage interfaces may be used on a zone to double capacity (up to 2400 watts)

## Dimensions and mounting

- Width: 4.57 in (116 mm)  
Height: 4.57 in (116 mm)  
Depth: 1.88 in (48 mm)  
Profile: 0.69 in (17 mm)
- Can be surface or recess mounted
- Mount in a 2-gang U.S. wallbox 3.50 in (89 mm) deep
- Requires incoming power feed wires, incoming control wires and outgoing load wires
- Approved and listed for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

\* Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for a complete list of LEDs compatible with this interface.

[Download specification submittal](#)

**Communication and wiring**

- Separate neutrals are required for load circuit—no common neutrals
- The load breaker/MCB may be on a different phase than the control breaker/MCB
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

Model numbers

**Interfaces**

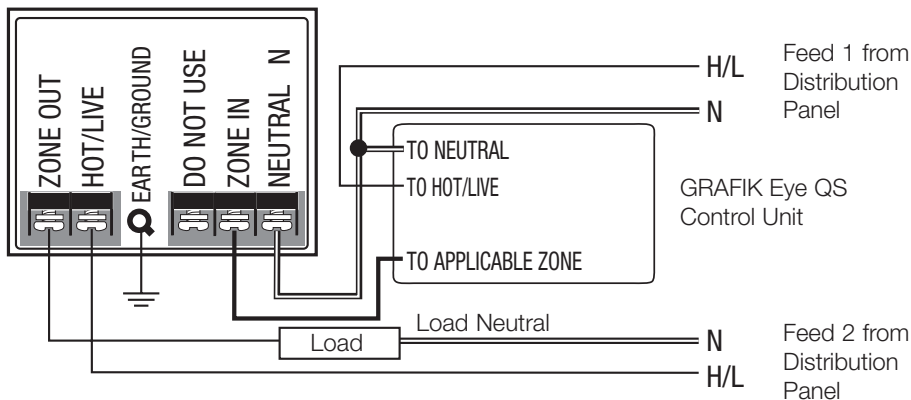
Electronic low-voltage interface NGRX-ELVI-AU-WH  
220–240V 1200W/VA

Electronic low-voltage interface NGRX-ELVI-CE-WH  
230V (CE) 1200W/VA

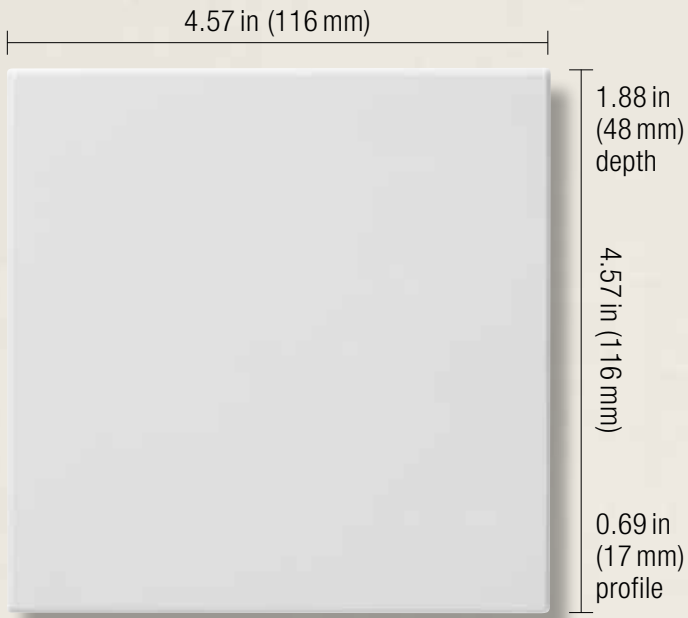
Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem and Energi Savr Node phase adaptive (DIN-rail) module.

**Dual-feed wiring diagram for 230V (CE)**

NGRX-ELVI-CE-WH



For 230V wiring and single-feed wiring, see the specification submittal on [www.lutron.com](http://www.lutron.com)



Shown above: Fluorescent dimming ballast interface (NGRX-FDBI-AU-WH)

## Direct lighting loads

☒ Fluorescent (3-wire)

## Operating voltages

- Models available for 220–240V

## Features and capacities

- Dim fluorescent lights that have Lutron 3-wire line-voltage control electronic dimming ballasts (Hi-lume®, EcoSystem®, and Hi-lume 3D)
- For 120V application, 3-wire fluorescent power module is recommended, see pg. 296
- Two fluorescent dimming ballast interfaces can be connected to one zone

## Dimensions and mounting

- Width: 4.57 in (116 mm)  
Height: 4.57 in (116 mm)  
Depth: 1.88 in (48 mm)  
Profile: 0.69 in (17 mm)
- Can be surface or recess mounted
- Mount in a 2-gang U.S. wallbox 3.50 in (89 mm) deep
- Requires incoming power feed wires, incoming control wires and outgoing load wires
- Approved and listed for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

[Download specification submittal](#)

**Communication and wiring**

- Separate neutrals are required for load circuit—no common neutrals
- The load breaker/MCB may be on a different phase than the control breaker/MCB
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

Model numbers

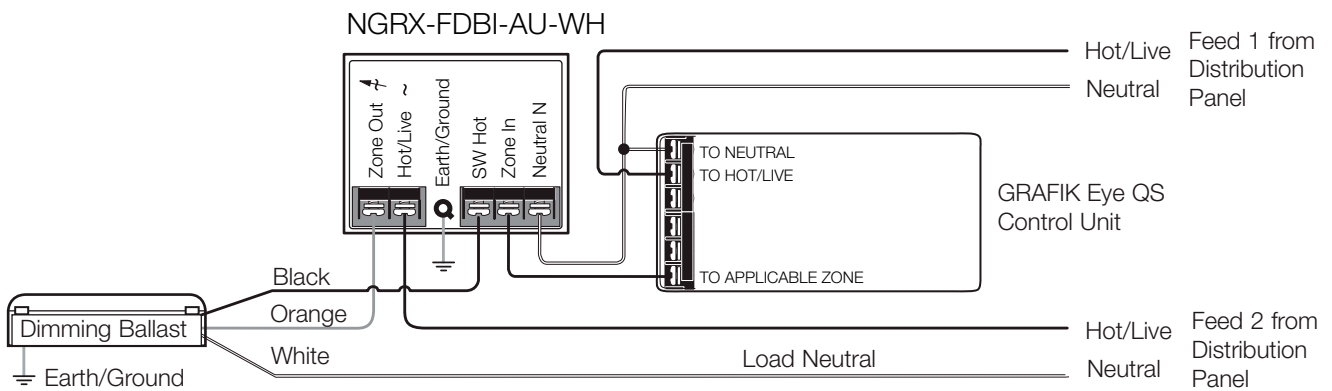
**Interfaces**

Fluorescent dimming ballast interfaces  
 220–240V 10A NGRX-FDBI-AU-WH

---

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem and Energi Savr Node™ phase adaptive (DIN-rail) module.

**Typical multiple-feed wiring diagram for GRAFIK Eye QS system**



For additional wiring diagrams, see the specification submittal on [www.lutron.com](http://www.lutron.com)



Shown above: 0–10V interface (GRX-TVI)

## Direct lighting loads

Fluorescent/LED<sup>1</sup> (0–10V)

Non-dim lighting

Motor loads

Fan loads

## Operating voltages<sup>2</sup>

- Provides 100–127V, or 200–240V (CE) power to loads
- Requires 100–127V or 200–240V power for internal operations

## Features and capacities

- Dims 0–10V LED drivers powered by 100–277V (driver must provide 0–10V source); consult Lutron for LED performance
- Dims 0–10V electronic fluorescent or 0–10V dimming ballast powered by 100–277V (ballast must provide 0–10V source)
- Switches up to 16A of electronic capacitive fluorescent ballasts/other loads
- Switches motors up to 1/4HP @ 100–127V, 1/2HP @ 200–277V
- 0–10V control output current rating: 10µA–127mA (sink only)
- Up to five 0–10V Interfaces may be connected to one control unit zone; this allows one zone to control up to five 16A circuits of 0–10V electronic dimming ballasts, or LED drivers or five motors

## Dimensions and mounting

- Width: 6.10 in (155 mm)
- Height: 12.50 in (318 mm)
- Depth: 3.30 in (84 mm)
- Wall-mount
- Requires incoming power feed wires, incoming control wires and outgoing load wires
- Approved for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

<sup>1</sup> Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for compatibility information.

<sup>2</sup> Contact Lutron for model availability for 277V load power

[Download specification submittal](#)

**Communication and wiring**

- Separate neutrals are required for load circuit—no common neutrals
- Each terminal can accept up to two 12 AWG (2.5 mm<sup>2</sup>) conductors

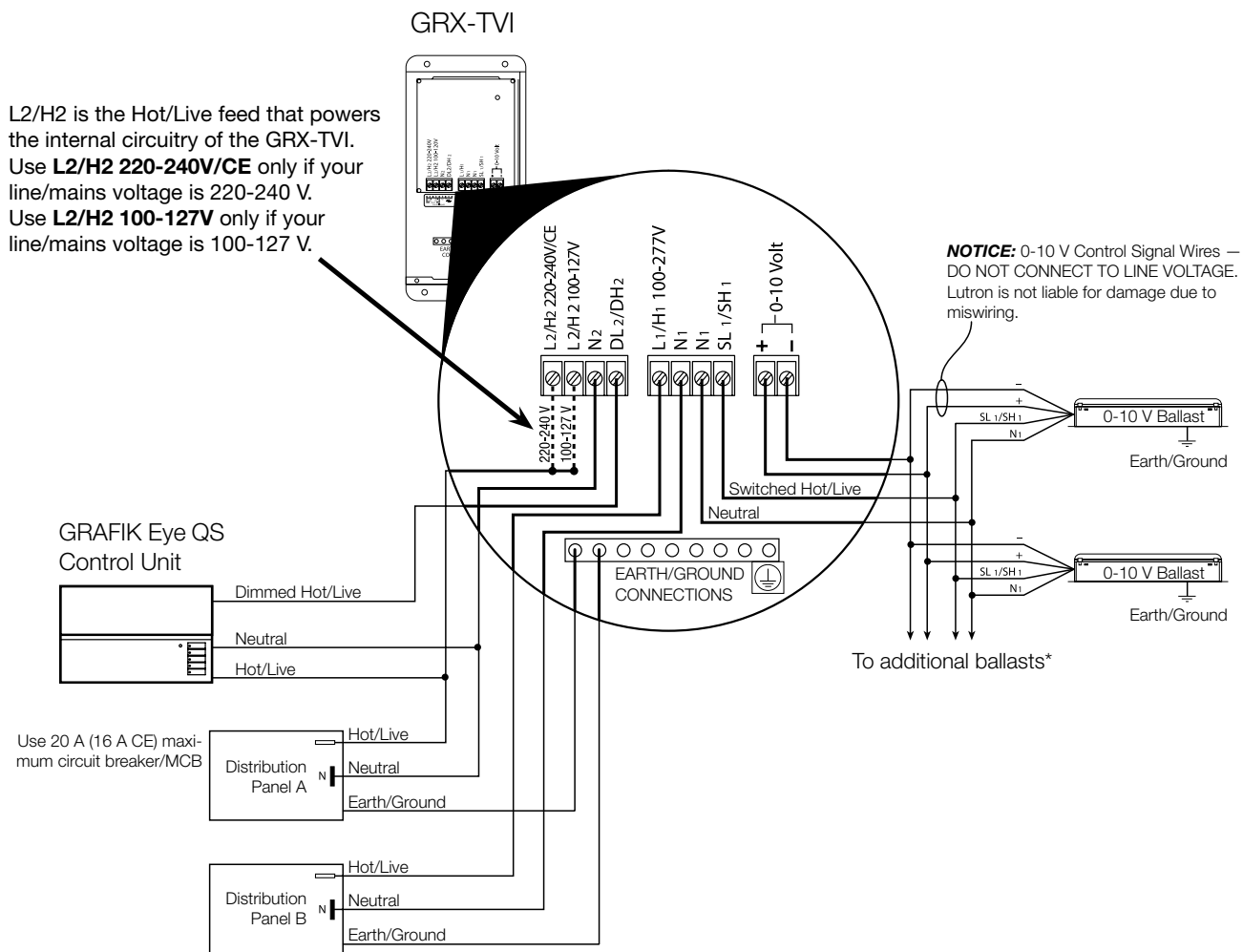
Model numbers

**Interfaces**

0–10V interface	GRX-TVI
0–10V interface for Japan	GRX-TVI-JA

Compatible with Maestro Wireless® dimmer/switch, Rania® Wireless switch, GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, Energi Savr Node™ phase adaptive (DIN-rail) module, RadioRA® 2 dimmer/switch/hybrid keypad, EcoSystem dimming power module, EcoSystem fixture module and EcoSystem switching power module.

**Typical multiple feed wiring diagram for GRAFIK Eye QS system**



For additional wiring diagrams, see the specification submittal on [www.lutron.com](http://www.lutron.com)

\*Ballast must provide 0–10V source only.



Shown above: Pulse width modulation interface (GRX-PWM)

## Operating voltages

- Provides 100–277V @ 50/60Hz power to loads
- Requires 100–127V @ 50/60Hz power for internal operations

## Feature and capacities

- Switches and dims any pulse width modulation fluorescent dimming ballast or LED driver powered by 100–277V that conforms to JISC 8120-2
- Switches up to 16A of electronic capacitive fluorescent ballasts/other loads
- Switches motors up to 1/4HP @ 100–127V, 1/2HP @ 200–277V
- Up to five pulse width modulation interfaces may be connected to one control unit zone. This allows one zone to control up to five 16A circuits of electronic dimming ballasts or five motors


## Dimensions and mounting

- Width: 6.10 in (155 mm)  
Height: 12.50 in (318 mm)  
Depth: 3.30 in (84 mm)
- Wall-mount
- Requires incoming power feed wires, incoming control wires and outgoing load wires
- Approved for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

## Direct lighting loads

 Fluorescent/LED\* (PWM)

 Non-dim lighting

 Motor loads

 Fan loads

\* Visit [www.lutron.com/LEDtool](http://www.lutron.com/LEDtool) for compatibility information.

## Model numbers

### Communication and wiring

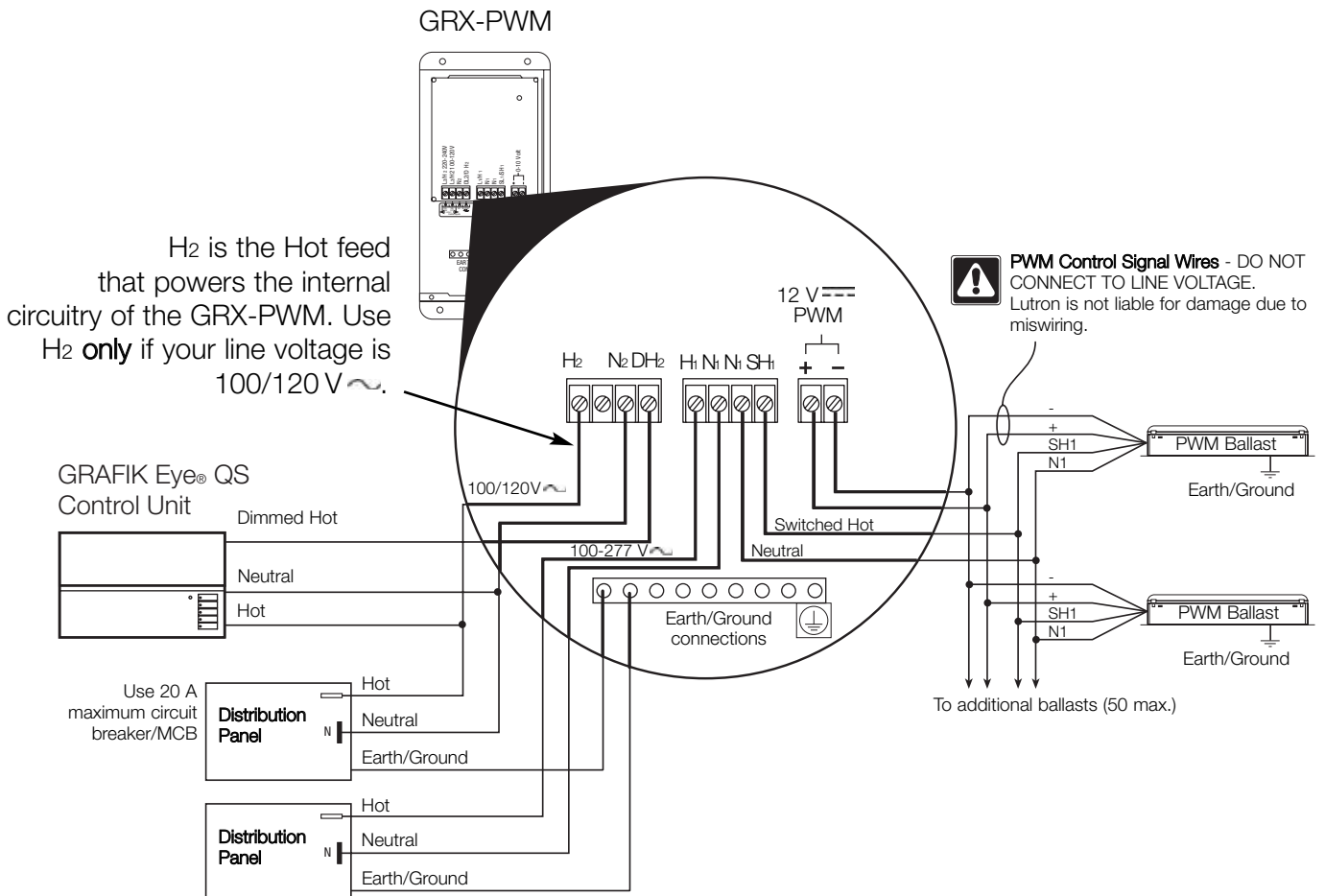
- Separate neutrals are required for load circuit—no common neutrals
- Each terminal can accept up to two 12 AWG (2.5mm<sup>2</sup>) conductors

### Interfaces

PWM interface GRX-PWM  
 PWM interface for Japan GRX-PWM-JA

Compatible with Maestro Wireless® dimmer/switch, Rania® Wireless switch, GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, Energi Savr Node™ phase adaptive (DIN-rail) module, RadioRA® 2 dimmer/switch/hybrid keypad, EcoSystem dimming power module, EcoSystem fixture module and EcoSystem switching power module.

### Typical wiring diagram for 100/120V GRX-PWM with multiple distribution panels



For additional wiring diagrams, see the specification submittal on [www.lutron.com](http://www.lutron.com)





Shown above: EcoSystem dimming module (BMJ) (C5-BMJ-16A)

### Direct lighting loads

 Fluorescent/LED (3-wire)

### Operating voltages

- Universal voltage input: 100–277V @ 50/60Hz
- Output rating: 16A Softswitch® relay maximum non-dimmable load

### Features and capacities

- Allows integration of Lutron 3-wire dimming ballasts or LED drivers into EcoSystem digital link
- Continuous, flicker-free dimming from 100% to minimum ballast level (10% for EcoSystem, 1% for Hi-lume®, 5% for Hi-lume 3D) relative light output
- Dim additional loads when the appropriate Lutron phase-adaptive power module is used  
Load types (120V ONLY):
  - Lutron® Tu-wire® fluorescent dimming ballasts
  - Incandescent (tungsten/halogen)
  - Magnetic low-voltage transformer
  - Neon/cold cathode
- Provides power to one wired occupant sensor, one wired daylight sensor, and one wired personal control input (infrared receiver or wallstation)

### Dimensions and mounting

- Width: 5.00 in (130 mm);  
Height: 7.80 in (200 mm);  
Depth: 2.50 in (64 mm)
- Mount the EcoSystem Power Module onto a 4 in (102 mm) x 4 in (102 mm) standard (1900) junction box
- Mount on a vertical or horizontal surface
- Approved for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

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## Model numbers

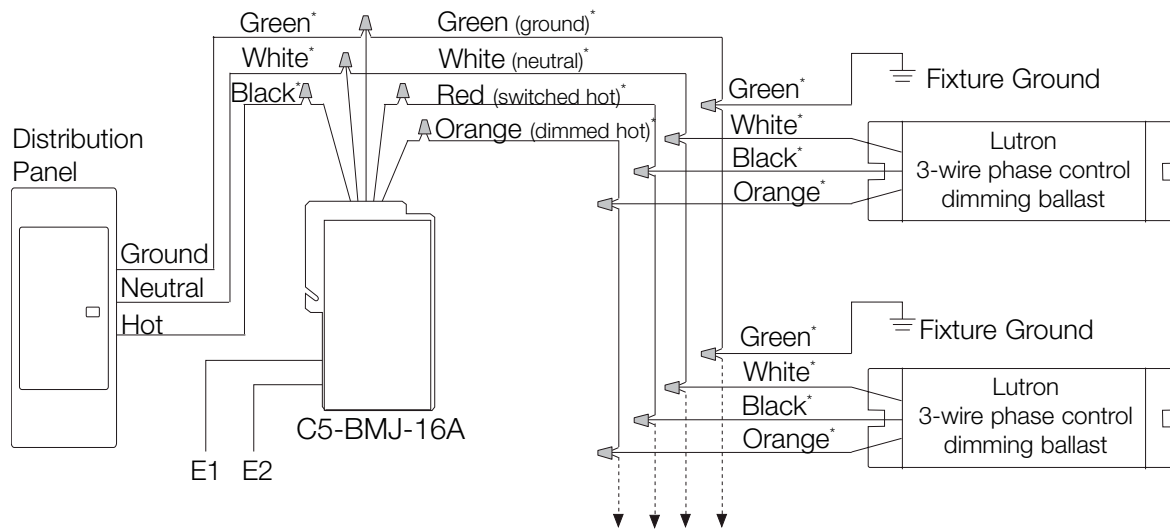
### Communication and wiring

- Wiring between module and ballast shall not exceed 500 ft (150 m)
- Maximum distance from module to sensor/keypad is 100 ft (30 m)
- Communicates status and sensor levels over the EcoSystem digital link
- E1 and E2 wires are not polarity sensitive
- Digital link length is limited by the wire gauge used for E1 and E2

### Modules

EcoSystem dimming power module C5-BMJ-16A  
 Compatible with PowPak® dimming module with EcoSystem, GRAFIK Eye® QS with EcoSystem and Energi Savr Node™ with EcoSystem.

### Typical load wiring diagram to a Lutron 3-wire dimming ballast



For additional wiring diagrams, see the specification submittal on [www.lutron.com](http://www.lutron.com)

\*Colors indicate the module and ballast wire colors and/or ballast terminal colors.



Shown above: EcoSystem switching module (XPJ) (C5-XPJ-16A)

### Features and capacities

- Allows integration of non-dim loads into EcoSystem digital link
- Capable of switching 16A of lighting (magnetic fluorescent ballast, electronic fluorescent ballast, incandescent/halogen, magnetic low-voltage, neon/cold cathode) and motor loads
- Provides power to one wired occupant sensor, one wired daylight sensor, and one personal control input (infrared receiver or wallstation)
- Do not use to switch receptacles or HID loads

### Dimensions and mounting

- Width: 5.00 in (130 mm);  
Height: 7.80 in (200 mm);  
Depth: 2.50 in (64 mm)
- Mount the EcoSystem Power Module onto a 4 in (102 mm) x 4 in (102 mm) standard (1900) junction box
- Mount on a vertical or horizontal surface
- Approved for installation in spaces designed for environmental air handling per 2011 NEC® artical 300.22 (c)

### Direct lighting loads for switching

- Non-dim lighting
- Motor loads:  
1/4 HP at 100–120V  
1/2 HP at 200–277V
- Fan loads

### Operating voltages

- Universal voltage input: 100–277V @ 50/60Hz
- Output Rating: 16A Softswitch® relay maximum non-dimmable load

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**Communication and wiring**

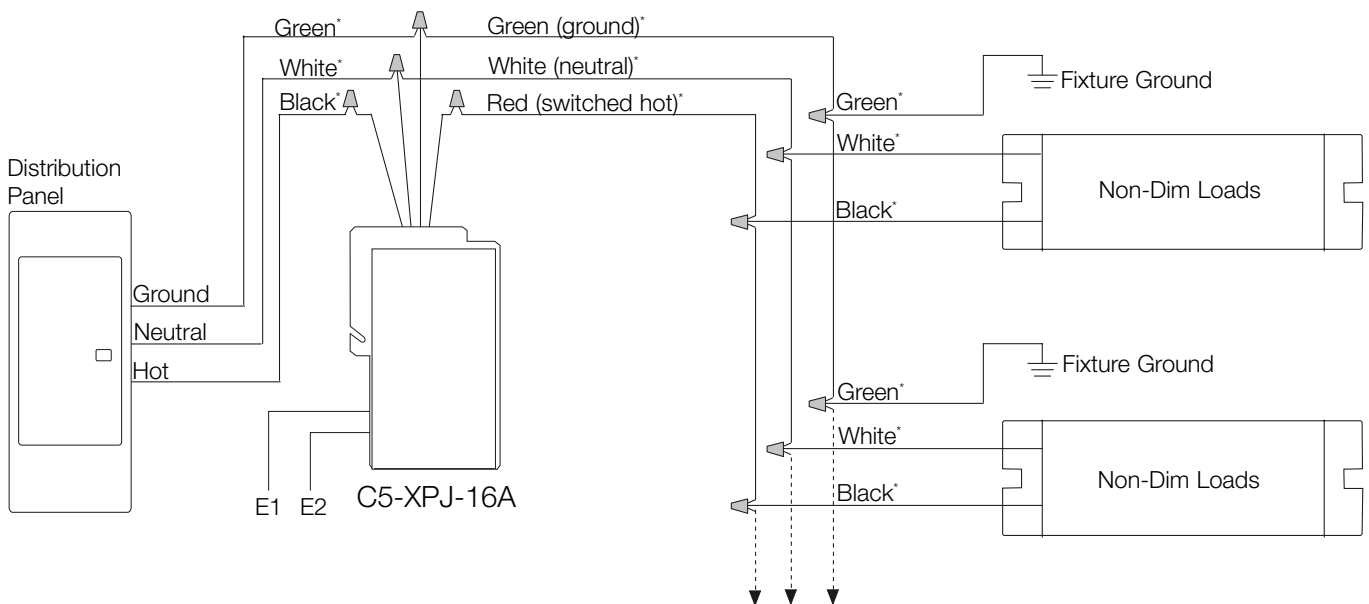
- Wiring between module and ballast shall not exceed 500 ft (150m)
- Maximum distance from module to sensor/keypad is 100 ft (30m)
- E1 and E2 wires are not polarity sensitive
- Digital link length is limited by the wire gauge used for E1 and E2
- Communicates status and sensor levels over the EcoSystem digital link

Model numbers

**Module**

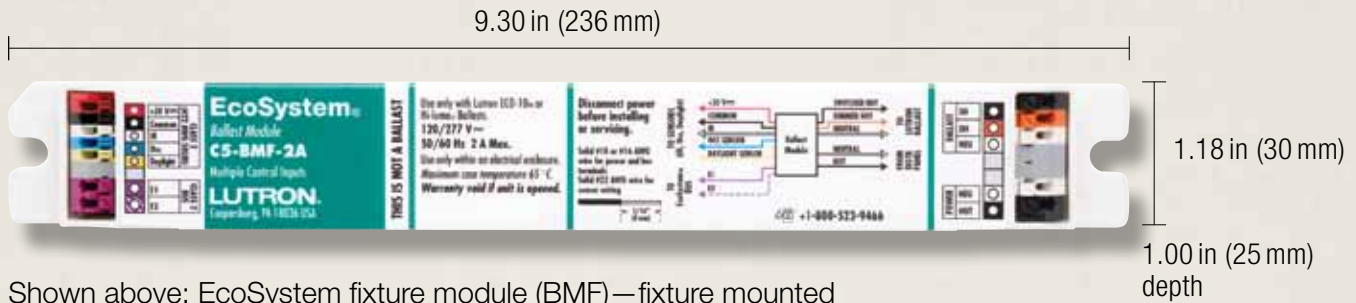
EcoSystem switching power module C5-XPJ-16A  
 Compatible with GRAFIK Eye® QS with EcoSystem® and Energi Savr Node™ with EcoSystem.

**Typical load wiring diagram to a Lutron 3-wire dimming ballast**



For additional wiring diagrams, see the specification submittal on [www.lutron.com](http://www.lutron.com)

\*Colors indicate the module and ballast wire colors and/or ballast terminal colors.



Shown above: EcoSystem fixture module (BMF)—fixture mounted (C5-BMF-2A)

### Direct lighting loads

- ☑ Fluorescent (3-wire)

### Operating voltages

- Universal voltage input: 120/240/277V @ 50/60Hz

### Features and capacities

- Allows integration of Lutron 3-wire dimming ballasts into EcoSystem digital link
- Provides power to one wired occupant sensor, one wired daylight sensor, and one wired personal control input (infrared receiver or wallstation)
- Continuous, flicker-free dimming from 100% to minimum ballast level (10% for EcoSystem, 1% for Hi-lume®/Hi-lume 3D) relative light output

### Dimensions and mounting

- Width: 9.30in (236 mm)  
Height: 1.18in (30 mm)  
Depth: 1.00in (25 mm)
- Mounts using two screws within a fluorescent fixture
- Ambient temperature operating range: 50–140° F (10–60° C)
- Relative humidity: less than 90% non-condensing

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## Model numbers

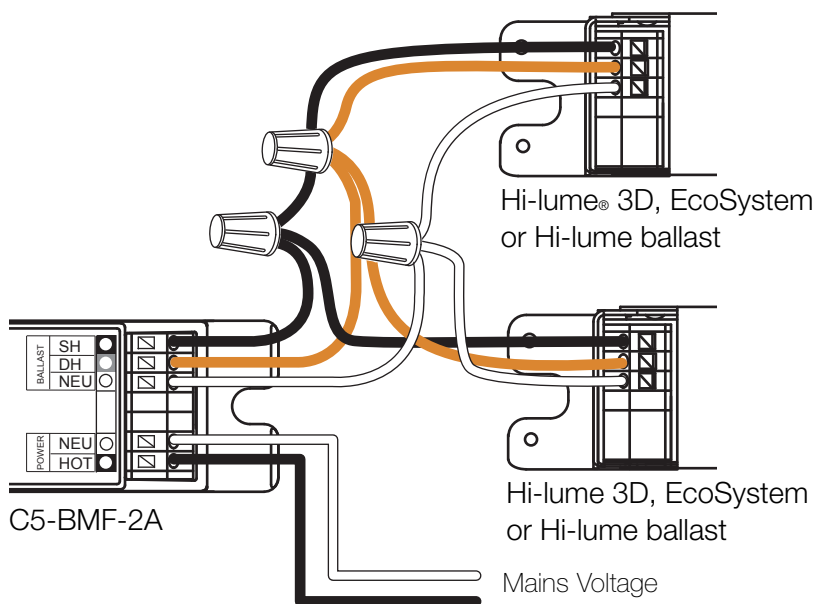
### Modules

EcoSystem fixture module	C5-BMF-2A
Compatible with PowPak® dimming module with EcoSystem, GRAFIK Eye® QS with EcoSystem and Energi Savr Node™ with EcoSystem.	

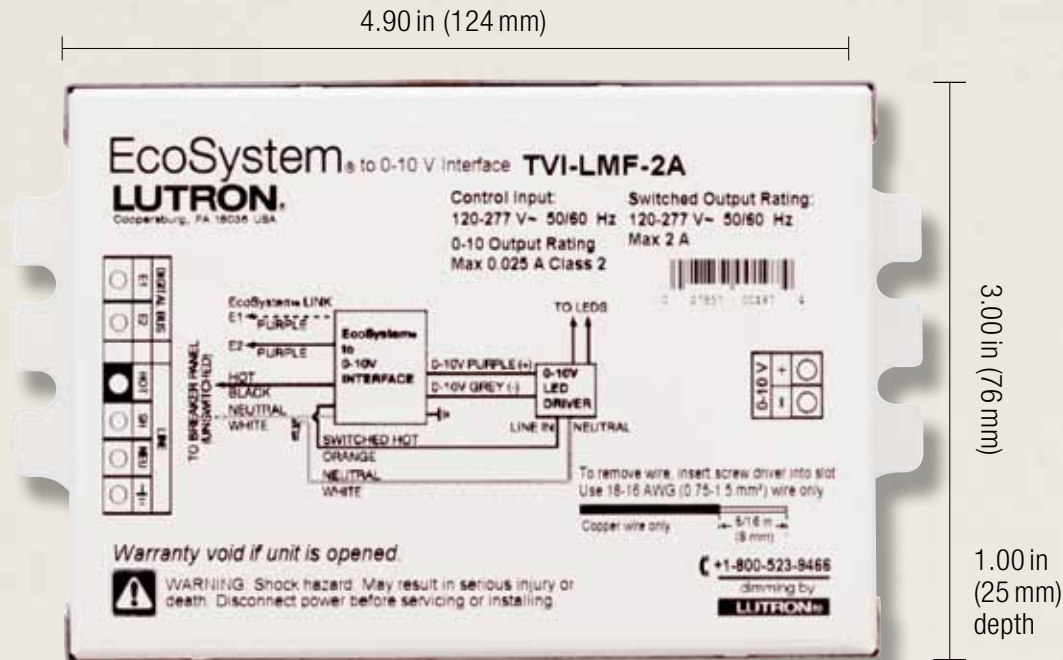
### Communication and wiring

- Wiring between module to ballast shall not exceed 50 ft (15 m)
- Maximum distance from module to sensor/keypad is 100 ft (30 m)
- Do not exceed 2 A of ballast current per fixture module output, consult 3-wire ballast specification for ballast current draw
- Communicates status and sensor levels over the EcoSystem digital link
- E1 and E2 wires are not polarity sensitive
- Digital link length is limited by the wire gauge used for E1 and E2

### Typical wiring diagram to multiple ballasts



For additional wiring diagrams, see the specification submittal on [www.lutron.com](http://www.lutron.com)



Shown actual size: EcoSystem to 0–10V interface (TVI-LMF-2A)

### Direct lighting loads

Fluorescent/LED (0–10V)

### Operating voltages

- Operating voltage: 120V~, 220/240V~, or 277V~ @ 50/60Hz input
- Provides one 120V~, 220/240V~, or 277V~ @ 50/60Hz 2A relay output

### Features and capacities

- Provides a control gateway from an EcoSystem link to a 0–10V compatible lighting device, typically an LED driver
- Allows for individual addressability of the 0–10V device, but only provides one-way communication from the controls to the 0–10V device
- For fixtures that have multiple drivers installed (such as two or three drivers being needed to reach certain output wattages), only one interface may be necessary
- This interface is not intended for control of multiple fixtures
- Incorporates Lutron® Softswitch® technology, allowing a minimum of 1,000,000 relay cycles
- Occupies one EcoSystem unit address
- 0–10V control output current rating: 25 mA max (sink only)

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## Dimensions and mounting

- Width: 3.00in (76mm)  
Height: 4.90in (124mm)  
Depth: 1.00in (25mm)
- Mounts via studs or tabs to outside of an LED fixture or on a junction box
- Complies with requirements for use in a compartment handling environmental air (plenum) per NEC® 2011 300.22(C)

## Communication and wiring

- Provides one 0–10V low-voltage IEC PELV/NEC Class 2 control output for devices compliant with IEC 60929 Annex E2 (control by DC voltage)
- EcoSystem digital link wiring connects the interface together with Lutron compatible controls with EcoSystem
- EcoSystem digital link can be wired Class 1 or IEC PELV/NEC Class 2
- Sensors cannot directly connect to the EcoSystem to 0–10V interface

## Model numbers

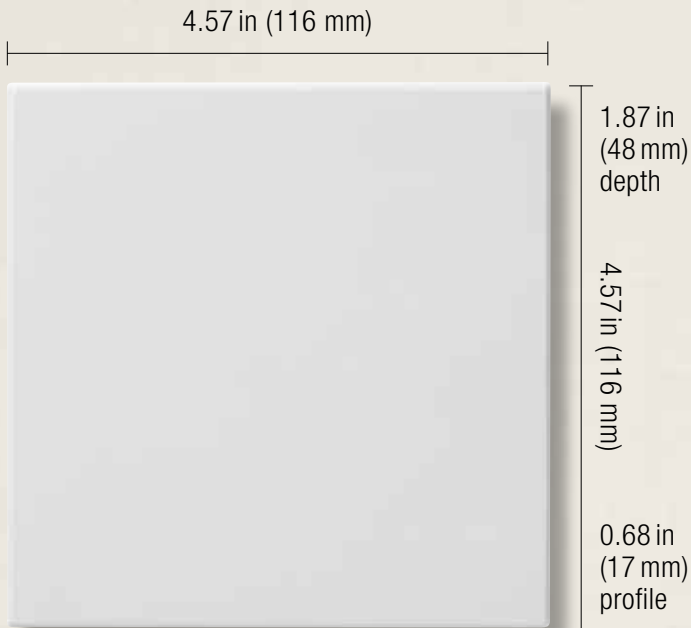
### Interfaces

#### EcoSystem to 0–10V interface

EcoSystem to 0–10V interface	TVI-LMF-2A
------------------------------	------------






Compatible with PowPak dimming module with EcoSystem, GRAFIK Eye® QS with EcoSystem, and Energi Savr Node™ with EcoSystem.





Shown above: Synthetic minimum load interface (LUT-LBX-WH)

## Direct lighting loads

-  Incandescent/halogen
-  Electronic low-voltage
-  Magnetic low-voltage
-  Neon/cold cathode
-  Fluorescent/ LED (3-wire)

## Operating voltages

- Models available for 120V 100mA and 220–240V 65mA (CE), and 100V input power @ 50/60Hz

## Features and capacities

- Presents a simulated load to the dimmer to meet the minimum load requirements even when the actual load is smaller
- Single circuit input: 120V 100mA
- Provides capability for certain control units to control low-wattage loads from 0W up to the minimum rating
- Works with forward-phase or leading-edge dimmers and reverse-phase or trailing-edge dimmers
- This “load-side” equipment installs on the zone wiring in parallel with the lighting load
- Dissipates a maximum of 10W when the controlling dimmer is near high-end
- Does not change the approved load types of control unit, only the minimum load requirement

## Dimensions and mounting

- Width: 4.57 in (116 mm)  
Height: 4.57 in (116 mm)  
Depth: 1.87 in (48 mm)  
Profile: 0.68 in (17 mm)
- Recess or surface-mount in 2-gang U.S. wallbox 3.50 in (89 mm) deep or in a 4 in (102 mm) x 4 in (102 mm) junction box, 2.10 in (53 mm) deep

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**Communication and wiring**

- Accepts up to two #12AWG (2.5mm<sup>2</sup>) wires
- Single and dual-zone wiring

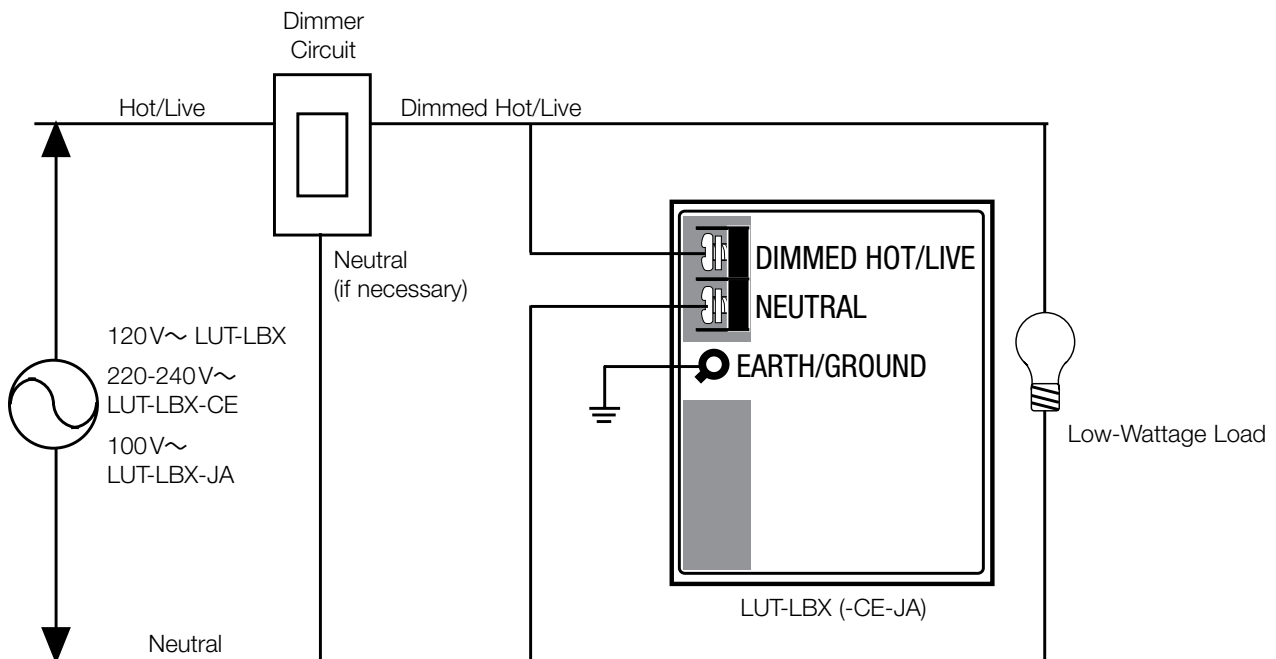
Model numbers

**Interfaces**

Synthetic minimum load interface 120V	LUT-LBX-WH
Synthetic minimum load interface 220–240V (CE)	LUT-LBX-CE-WH
Synthetic minimum load interface 100V for Japan	LUT-LBX-JA-WH

Compatible with Maestro Wireless® dimmer, GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem and RadioRA® 2 dimmer/hybrid keypad.

**Typical single-zone wiring**



## Ballasts and drivers

Fluorescent and LED lighting is used widely in educational, institutional and commercial buildings. These sources meet energy-conscious design criteria such as ASHRAE/IESNA 90.1 standards and LEED® guidelines. Fluorescent and LED lighting is also increasingly found in residential spaces, especially in recessed downlights and coves.

Dimming fluorescent lighting instead of repeated switching helps maintain lamp life and saves energy. All Lutron® fluorescent dimming ballasts and LED drivers are 100% performance-tested at the factory and come with a 5-year limited warranty with Lutron field service commissioning (3-year standard warranty) from date of purchase. Lutron Quality Systems are registered to ISO 9001.2008.

The ballasts and drivers addressed in this guide are specific to each country's voltage requirements. Please confirm that the products you have selected match the required voltages by country shown on pg. 458 .

### Fluorescent ballasts



#### **EcoSystem® H-Series ballasts**

EcoSystem digital control  
pg. 332

**CE, CSA, CCC AND INMETRO MODELS AVAILABLE**



#### **Hi-lume® 3D ballasts**

EcoSystem digital control  
3-wire control  
pg. 334



#### **EcoSystem ballasts**

EcoSystem digital control  
3-wire control  
pg. 336



### **EcoSystem ballasts for compact fluorescent lamps (CFL)**

EcoSystem digital control  
3-wire control  
pg. 338



### **Hi-lume ballasts**

3-wire control  
pg. 340



### **Tu-Wire® ballasts**

Tu-Wire control  
pg. 342

## LED drivers



### **Hi-lume A-Series LED drivers**

EcoSystem digital control  
3-wire control  
2-wire forward phase control  
pg. 344



### **EcoSystem LED drivers**








EcoSystem digital control  
pg. 346












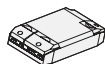
**CE MODELS ONLY**

For additional information on ballasts,  
please visit [www.lutron.com/ballast](http://www.lutron.com/ballast)

For additional information on LEDs,  
please visit [www.lutron.com/LED](http://www.lutron.com/LED)



## EcoSystem® compatible ballasts and drivers






Family	Compatible Lamp Types and Wattages	Input Voltage
<b>Fluorescent ballasts</b>		
EcoSystem H-Series ballasts pg. 332 	<ul style="list-style-type: none"> <li>• T8 linear and U-bent: 17W, 25W, 32W</li> <li>• T5 HO linear: 24W, 39W, 54W</li> <li>• T5 linear: 14W, 21W, 28W</li> </ul>	<ul style="list-style-type: none"> <li>• UNV: 120V, 220/240V, 277V @ 50/60Hz</li> </ul>
EcoSystem H-Series ballasts pg. 332 <b>Global models</b> 	<ul style="list-style-type: none"> <li>• T8 linear: 32W</li> <li>• T5 HO linear: 24W, 39W, 54W</li> <li>• T5 linear: 14W, 21W, 28W</li> </ul> NOTE: For model availability, please refer to page 316.	<ul style="list-style-type: none"> <li>• 127–220V INMETRO @ 50/60Hz</li> <li>• 220–240V CE @ 50/60Hz</li> <li>• 220–240V CCC @ 50/60Hz</li> <li>• 347V CSA @ 60Hz</li> </ul>
Hi-lume® 3D ballasts pg. 334 	<ul style="list-style-type: none"> <li>• T8 linear and U-bent: 17W, 25W, 32W, 40W</li> <li>• T5 HO linear: 24W, 39W, 54W, 80W</li> <li>• T5 linear: 14W, 21W, 28W</li> <li>• T5 twin-tube: 36W, 40W, 50W</li> </ul>	<ul style="list-style-type: none"> <li>• UNV: 120V, 220/240V, 277V @ 50/60Hz</li> </ul>
EcoSystem ballasts pg. 336 	<ul style="list-style-type: none"> <li>• T8 linear and U-bent: 17W, 25W 32W</li> <li>• T8 linear Reduced Wattage: 25W, 28W, 30W</li> <li>• T5 HO linear: 24W, 39W, 54W</li> <li>• T5 linear: 14W, 21W, 28W, 35W</li> <li>• T5 twin-tube: 36W, 39W, 40W, 50W, 55W</li> <li>• T5 twin-tube Reduced Wattage: 25W</li> </ul>	<ul style="list-style-type: none"> <li>• UNV: 120V, 220/240V, 277V @ 50/60Hz</li> </ul>
EcoSystem compact ballasts pg. 338 	<ul style="list-style-type: none"> <li>• T4 4-pin quad-tube CFL: 18W, 26W</li> <li>• T4 4-pin triple-tube CFL: 26W, 32W, 42W</li> </ul>	<ul style="list-style-type: none"> <li>• UNV: 120V, 220/240V, 277V @ 50/60Hz</li> </ul>
<b>LED drivers</b>		
Hi-lume® A-Series LED drivers pg. 340 	<ul style="list-style-type: none"> <li>• LED light engines, up to 40W</li> </ul>	<ul style="list-style-type: none"> <li>• UNV: 120V, 220/240V, 277V @ 50/60Hz</li> <li>• 120V only for forward phase control models</li> </ul>
EcoSystem LED drivers pg. 346 <b>CE model</b> 	<ul style="list-style-type: none"> <li>• LED light engines, up to 25W</li> </ul>	<ul style="list-style-type: none"> <li>• 220–240V CE @ 50/60Hz</li> </ul>

Control Options	Available Case Types (pgs. 328-331)	Low-end dimming level	Integral Sensor Connections
<ul style="list-style-type: none"> <li>EcoSystem digital link</li> </ul>	 M-case  G-case	0.7% for T8 1% for T9 and T5HO	No
<ul style="list-style-type: none"> <li>EcoSystem digital link</li> </ul>	 M-case  C-case (for 347 V only)	1%	No
<ul style="list-style-type: none"> <li>EcoSystem digital link</li> <li>3-wire</li> </ul>	 C-case  G-case	0.7% for T8 1% for T5 and T5 HO 5% for T5 twin-tube and T5 HO 80W	No
<ul style="list-style-type: none"> <li>EcoSystem digital link</li> <li>3-wire control</li> <li>Low-voltage wallbox controls, occupancy and daylight sensors</li> </ul>	 J-case  G-case	10%	Yes
<ul style="list-style-type: none"> <li>EcoSystem digital link</li> <li>3-wire</li> </ul>	 K-case	5%	No
<ul style="list-style-type: none"> <li>EcoSystem digital link</li> <li>3-wire</li> <li>2-wire forward phase control (neutral required)</li> </ul>	 K-case  M-case	1%	No
<ul style="list-style-type: none"> <li>EcoSystem digital link</li> </ul>	 P-case	1%	No

### 3-Wire and Tu-Wire® compatible ballasts

(For other 3-wire compatible ballasts, see pgs. 334, 336)

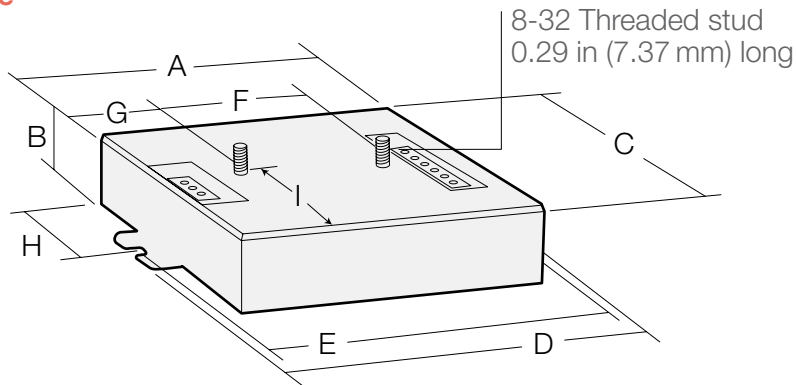
Family	Compatible Lamp Types and Wattages	Input Voltage
<b>Fluorescent ballasts</b>		
Hi-lume® ballasts pg. 340 	<ul style="list-style-type: none"> <li>• T5 HO linear: 24 W, 39W, 54W</li> <li>• T4 4-pin triple-tube CFL: 26W, 32 W</li> </ul>	<ul style="list-style-type: none"> <li>• 120V, 277V @ 60Hz</li> </ul>
Tu-Wire ballasts pg. 342 	<ul style="list-style-type: none"> <li>• T8 linear and U-bent: 25W, 32 W</li> <li>• T4 4-pin quad-tube CFL: 18W, 26 W</li> <li>• T4 4-pin triple-tube CFL: 18W, 26W, 32 W</li> </ul>	<ul style="list-style-type: none"> <li>• 120V @ 60Hz</li> </ul>

Control Options	Available Case Types (pgs. 328-331)	Low-end dimming level	Integral Sensor Connections
• 3-wire	 A-case  C-case	1%	No
• Tu-Wire (fluorescent)	 A-case  B-case  C-case	5%	No



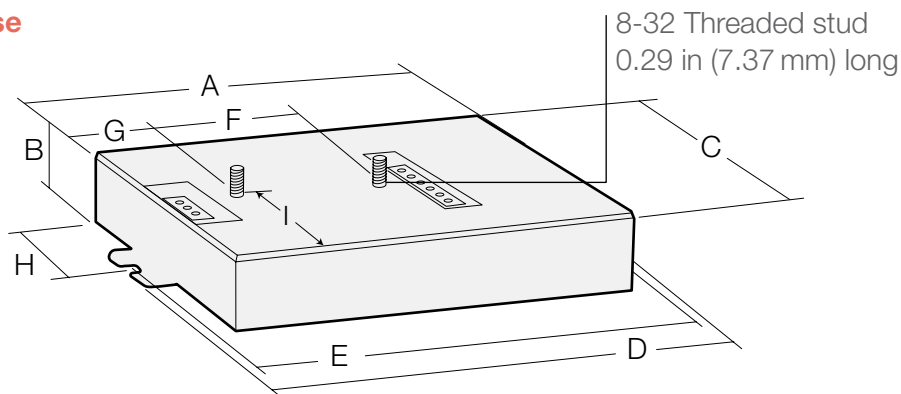
## Case dimensions

### A-case



A	4.20 in (107 mm)
B	1.00 in (25 mm)
C	3.00 in (76 mm)
D	4.90 in (124 mm)
E	4.60 in (117 mm) (mounting centers)
F	2.00 in (51 mm)
G	1.08 in (27 mm)
H	1.60 in (41 mm)
I	1.39 in (35 mm)

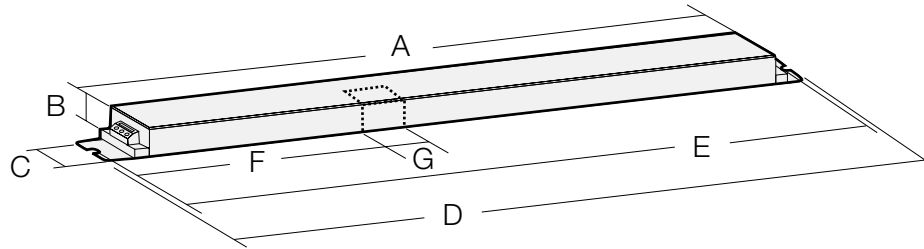
### B-case



A	6.00 in (152 mm)
B	1.00 in (25 mm)
C	3.00 in (76 mm)
D	6.75 in (171 mm)
E	6.50 in (165 mm) (mounting centers)
F	2.00 in (51 mm)
G	1.16 in (29 mm)
H	1.60 in (41 mm)
I	1.39 in (35 mm)

## Case dimensions

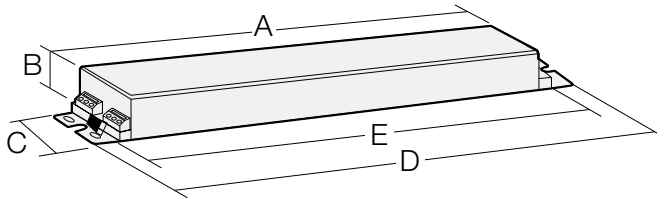
### C- or J-case



Note: Dotted area for sensor attachment applies to EcoSystem® J-case only.

- A 16.12 in (409 mm)
- B 1.00 in (25 mm)
- C 1.18 in (30 mm)
- D 18.00 in (457 mm)
- E 17.70 in (450 mm)  
(mounting centers)
- F 6.82 in (173 mm)  
(J only)
- G 0.394 in (10 mm)  
(J only)

### G-case



Lamp wires are  
36 in (0.90 m)  
for leaded models

Power and control  
wires are 18 in (457 mm)  
for leaded models

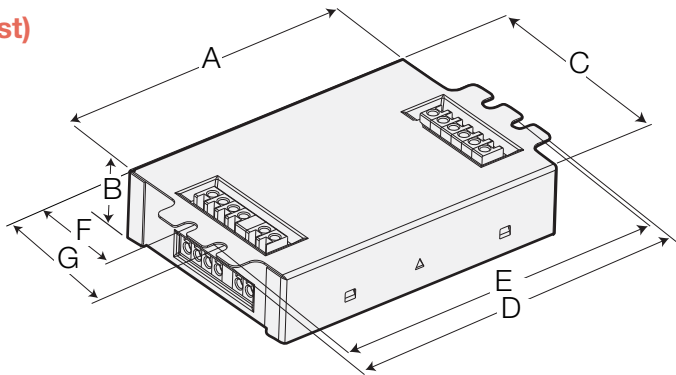
- A 7.13 in (181 mm)
- B 1.00 in (25 mm)
- C 2.38 in (60 mm)  
(slot mounting centers)
- D 9.50 in (241 mm)
- E 8.91 in (226 mm)

If using 4-hole mount,  
mounting centers are 9.00 in  
(229 mm) x 1.06 in (27 mm).

## Case dimensions

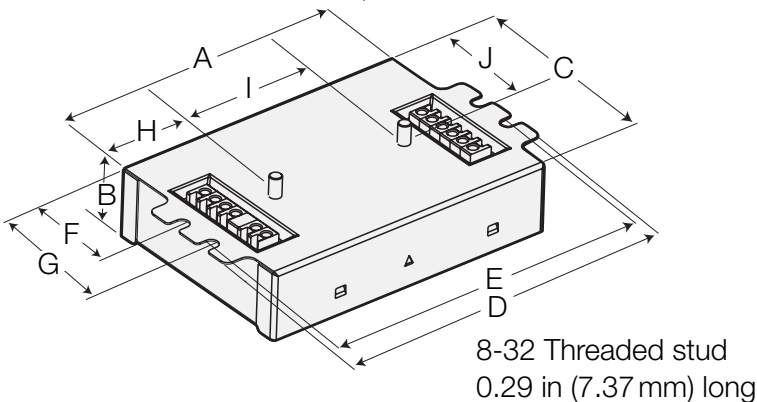
### K-case (Ballast)

Non-studded:



- A 4.20 in (107 mm)
- B 1.00 in (25 mm)
- C 3.00 in (76 mm)
- D 4.90 in (124 mm)
- E 4.60 in (117 mm)  
(mounting centers)
- F 1.42 in (36 mm)
- G 1.99 in (51 mm)

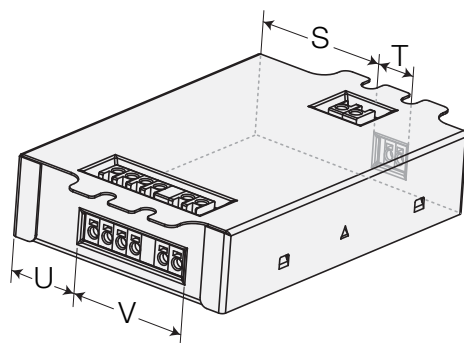
Studded:



- For studded models only:
- H 1.09 in (28 mm)
  - I 2.00 in (51 mm)
  - J 1.60 in (41 mm)

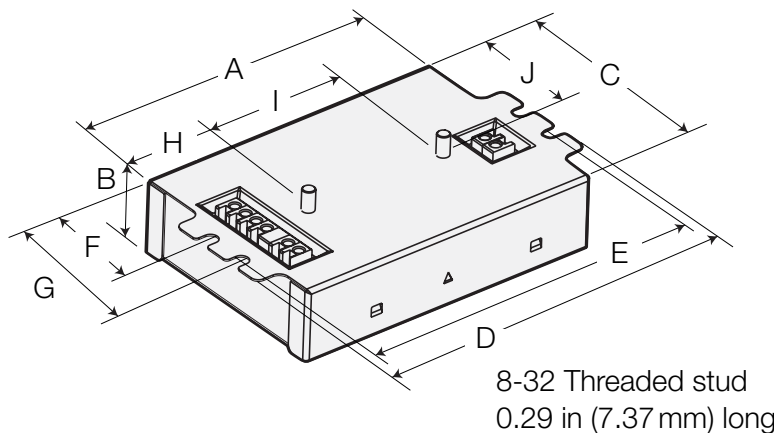
### K-case (LED Driver)

Non-studded:



- A 4.20 in (107 mm)
- B 1.00 in (25 mm)
- C 3.00 in (76 mm)
- D 4.90 in (124 mm)
- E 4.60 in (117 mm)  
(mounting centers)
- F 1.42 in (36 mm)
- G 1.99 in (51 mm)

Studded:

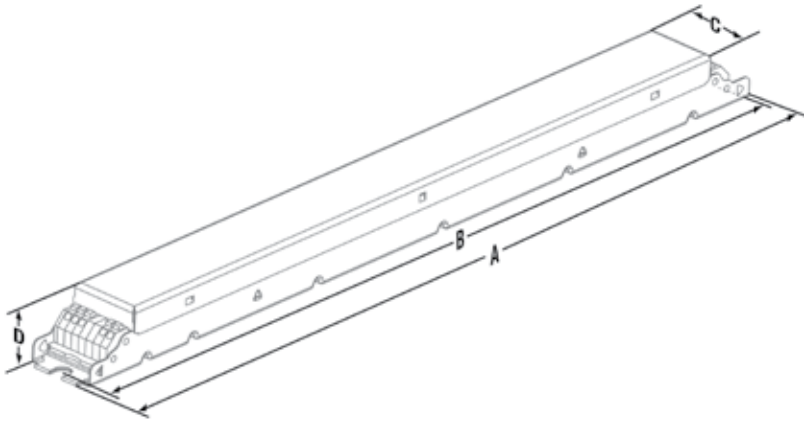


- For studded models only:
- H 1.09 in (28 mm)
  - I 2.00 in (51 mm)
  - J 1.60 in (41 mm)

- For non-studded models only:
- S 1.38 in (35 mm)
  - T 0.64 in (16 mm)
  - U 0.88 in (22 mm)
  - V 1.53 in (39 mm)

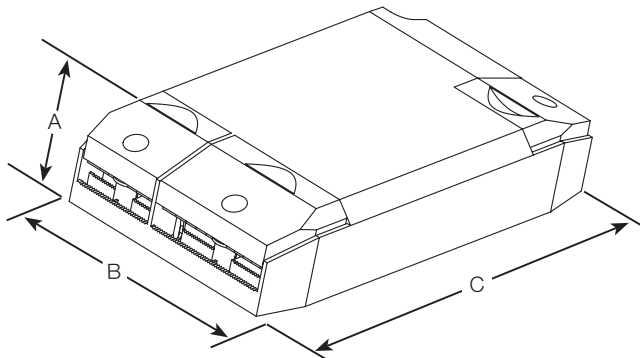
## Case dimensions

### M-case



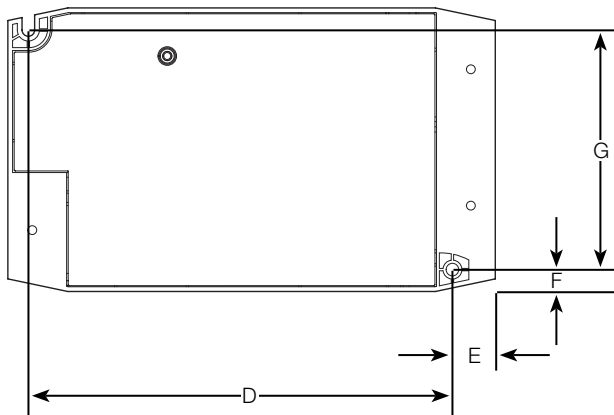
- A 14.13 in (359 mm)
- B 13.78 in (350 mm)  
(mounting centers)
- C 1.18 in (30 mm)
- D 0.98 in (25 mm)

### P-case (International models only)



- A 31.8 mm
- B 90 mm
- C 154.7 mm
- D 134.6 mm
- E 13.6 mm
- F 6.95 mm
- G 76.05 mm

### Mounting centers



Highest performance dimming to 1% at a low cost  
EcoSystem digital link controlled

**CE, CSA, CCC AND INMETRO  
MODELS AVAILABLE**



Shown above: EcoSystem H-Series, M-case

**Model numbers are organized by lamp type, refer to pg.349 for additional information.**

EcoSystem H-Series digitally addressable ballasts offer a low-cost, flexible solution for any space in an application. Providing industry-leading dimming to 1% or less, they meet the needs of the most demanding applications. The EcoSystem digital link also provides individual control, which eliminates the need to rewire, reduces design time, and provides a scalable solution from a small area to an entire building.

### Operating voltage

- Universal input (120V, 220/240V and 277V @ 50/60Hz) and 347V @ 60Hz

### Lamp types and wattages

#### UL Listed (for North America):

- T8 linear and U-bent: 17W, 25W, 32W
- T5 HO linear: 24W, 39W, 54W
- T5 linear: 14W, 21W, 28W

#### Global models:

- T8 linear: 32W
- T5 HO linear: 24W, 39W, 54W
- T5 linear: 14W, 21W, 28W

### Control option

- EcoSystem digital link

### Available case types

- G-case
- M-case
- C-case (347V only)

### Key standards

- California Energy Commission Listed
- UL Listed (evaluated to the requirements of UL 935)
- CSA Certified (evaluated to the requirements of C22.2 No. 74)
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions
- Select models are NOM listed
- Models are also available to meet global country-specific standards. See pg. 368 for a listing of global model numbers

[Download specification submittal for 120V-220V-277V](#)

[Download specification submittal for 347V](#)

[Download specification submittal for 220V-240V](#)

## Features

- Continuous, flicker-free dimming down to 0.7% or 1% of full light output for T8 lamps, 1% for T5 and T5 HO lamps
- The EcoSystem digital link allows for re-zoning without rewiring, and can be wired as Class 1 or Class 2—perfect for retrofit and new construction
- The EcoSystem® digital link supports up to 64 digital ballasts, 64 occupancy sensors, 16 daylight sensors, and 64 wallstations or infrared (IR) receivers
- The PowPak® dimming module with EcoSystem supports 32 EcoSystem ballasts or drivers, 9 Pico® wireless controls, 6 occupancy/vacancy sensors and 1 daylight sensor
- Low-voltage, 2-conductor EcoSystem digital link provides individual, reconfigurable fixture control
- Sensors cannot connect directly to EcoSystem H-Series ballasts
- Communicates with wired or wireless sensors and controls via compatible device
- Line-voltage miswire protection of EcoSystem link
- Slim-profile design
- Ballasts maintain consistent light output for different lamp lengths, ensuring fixture-to-fixture uniformity
- Lamps turn on at any dimmed level without going to full brightness
- 100% performance-tested, including burn-in at the factory

## Mounting

- Ballast mounts using two screws (or sheet metal feature and one screw) within a fluorescent fixture
- Ballast is grounded via a mounting screw to the fixture
- Lutron and NEMA® recommend sockets complying with IEC 60400. Sockets must have a UL mark as well. Use rapid start sockets, not instant start sockets.
- Terminals accept 16-18AWG (0.75 to 1.5mm<sup>2</sup>) solid copper or tinned stranded wire

## Specifications

- Total Harmonic Distortion (THD): less than 10%
- Power factor greater than 0.95
- Ballast factor equal to 1.0 or 1.17 for T8 lamps
- Ballast factor equal to 1.0 for T5 and T5 HO lamps and all international models
- Non-volatile memory restores all ballast settings after power failure
- Frequency of operation greater than 42 kHz
- Built-in inrush-current limiting circuitry (maximum of 7 amps at 120V and 3 amps at 277V)
- Factory-tuned ballast factors available to customize the ballast for different applications (not available for models outside the US)

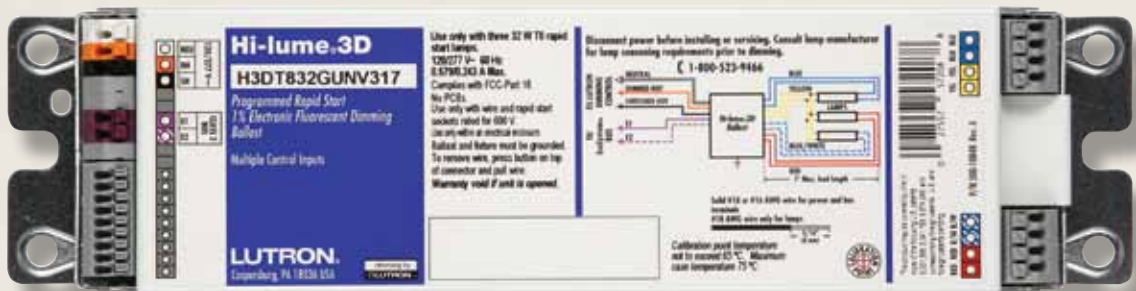
## Environment

- Sound rating: Class A
- Minimum lamp starting temperature 10°C (50°F)
- Maximum ballast case temperature 75°C (167°F)

## Wiring

- EcoSystem H-Series ballasts require four wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18AWG solid copper Class 1 or Class 2 wire per terminal
- The 16AWG control wire must not exceed 900ft, and the 18AWG must not exceed 550ft; maximum ballast-to-lamp-socket lead length is 7ft (2m) for T8, T5 and T5 HO linear lamps

Highest performance dimming to 1%  
EcoSystem® digital link or 3-wire controlled



Shown above: Hi-lume 3D, G-case

**Model numbers are organized by lamp type, refer to pg. 349) for additional information.**

Hi-lume 3D is a high-performance, energy-efficient, digitally addressable dimming ballast for demanding architectural applications. Hi-lume 3D is the world's first fluorescent dimming ballast that dims lights to 1% or less for T8 lamps. With Hi-lume 3D you get the highest performance fluorescent dimming with the same efficiency as non-dimmable ballasts.

### Operating voltage

- Universal input  
(120V, 220/240V, 277V @ 50/60Hz)

### Lamp types and wattages

- T8 linear and U-bent: 17W, 25W, 32W, 40W
- T5 HO linear: 24W, 39W, 54W, 80W<sup>1</sup>
- T5 linear: 14W, 21W, 28W
- T5 twin tube<sup>1</sup>: 36W, 40W, 50W

### Control options

- EcoSystem digital link
- 3-wire control

### Available case types

- C-case
- G-case

### Key standards

- California Energy Commission Listed
- UL Listed (evaluated to the requirements of UL 935)
- CSA certified (evaluated to the requirements of C22.2 No. 74, specific model numbers only)
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions
- Select models are NOM listed

<sup>1</sup>80W T5 HO model and T5 twin-tube models dim to 5%

[Download specification submittal](#)



## Features

- Industry-leading ballast efficacy of up to 100 lumens per watt
- Broadest dimming range: continuous, flicker-free dimming down to 0.7% of full light output for T8 lamps, 1% for T5 and T5 HO lamps, and 5% for T5 twin-tube and T5 HO 80W lamps
- The EcoSystem® digital link supports up to 64 digital ballasts, 64 occupancy sensors, 16 daylight sensors, and 64 wallstations or infrared (IR) receivers
- The PowPak® dimming module with EcoSystem supports 32 EcoSystem ballasts or drivers, 9 Pico® wireless controls, 6 occupancy/vacancy sensors and 1 daylight sensor
- EcoSystem digital link allows for rezoning without rewiring, and can be wired as Class 1 or Class 2—perfect for retrofit and new construction
- Sensors cannot connect directly to the Hi-lume 3D ballasts
- Communicates with wired or wireless sensors and controls via compatible device
- Line-voltage miswire protection of EcoSystem link
- Slim-profile design
- Ballasts maintain consistent light output for different lamp lengths, ensuring fixture-to-fixture uniformity
- Lamps turn on at any dimmed level without going to full brightness
- 100% performance-tested, including burn-in at the factory

## Specifications

- Total Harmonic Distortion (THD): less than 10%
- Power factor greater than .95
- Ballast factor equal to 1.0 or 1.17 for T8 lamps
- Ballast factor equal to 1.0 for T5 lamps
- Frequency of operation greater than 42 kHz
- Factory-tuned ballast factors available to customize the ballast for different applications

## Environment

- Sound rating: Class A
- Minimum lamp starting temperature 10°C (50°F)
- Maximum ballast case temperature 75°C (167°F)

## Mounting

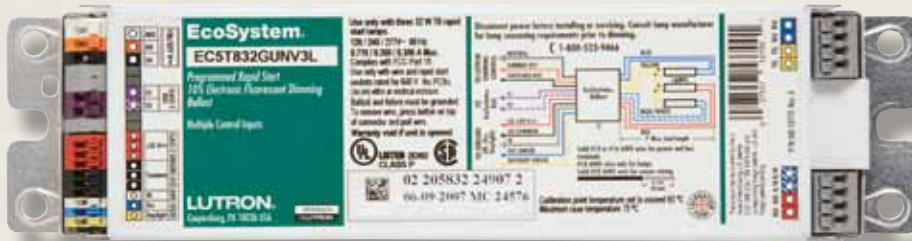
- Ballast mounts using two screws (or sheet metal feature and one screw) within a fluorescent fixture
- Ballast is grounded via a mounting screw to the fixture
- Lutron and NEMA® recommend sockets complying with IEC 60400. Sockets must have a UL mark as well. Use rapid start sockets, not instant start sockets.
- Terminals accept 16-18AWG (0.75 to 1.5mm<sup>2</sup>) solid copper or tinned stranded wire

## Wiring

- **EcoSystem digital link:** Hi-lume 3D ballasts require 4 wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18AWG solid copper Class 1 or Class 2 wire per terminal
- **3-Wire:** Hi-lume 3D ballasts require three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18AWG solid copper Class 1 wire per terminal
- The 16AWG control wire must not exceed 900ft, and the 18AWG must not exceed 550ft; maximum ballast-to-lamp-socket lead length is 7 ft (2m) for T8, T5 and T5 HO linear lamps, and 3 ft (1 m) for T5 twin-tube lamps
- Ballast is grounded via case



## Light management performance dimming to 10% EcoSystem digital link or 3-wire controlled



Shown above: EcoSystem ballast, G-case

**Model numbers are organized by lamp type, refer to pg.349 for additional information.**

EcoSystem digitally addressable dimming ballasts employ revolutionary technology allowing each device to listen, think, decide, remember, and react to its environment. EcoSystem fluorescent lighting control solutions are built on a simple building block architecture of fluorescent dimming ballasts, sensors, and controls, free from interfaces and power packs. EcoSystem redefines fluorescent lighting control as easy to design, easy to install, easy to maintain, and cost effective.

### Operating voltage

- Universal input (120V, 220/240V, 277 V @ 50/60Hz)

### Lamp types and wattages

- T8 linear and U-bent: 17W, 25W, 32W
- T8 linear Reduced Wattage: 25W, 28W, 30W
- T5 HO linear: 24W, 39W, 54W
- T5 linear: 14W, 21W, 28W, 35W
- T5 twin-tube: 36W, 39W, 40W, 50W, 55W
- T5 twin-tube reduced wattage: 25W

### Control options

- EcoSystem digital link
- 3-Wire control

### Available case types

- G-case
- J-case

### Key standards

- California Energy Commission Listed
- UL Listed (evaluated to the requirements of UL 935)
- CSA Certified (evaluated to the requirements of C22.2 No. 74)
- Select models are NOM listed
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions

[Download specification submittal for T4](#)

[Download specification submittal for T5 Linear](#)

## Features

- Continuous, flicker-free dimming from 100% to 10%
- EcoSystem digital link allows for re-zoning without rewiring, and can be wired as Class 1 or Class 2—perfect for retrofit and new construction
- The EcoSystem digital link supports up to 64 digital ballasts, 64 occupancy sensors, 16 daylight sensors, and 64 wallstations or infrared (IR) receivers
- The PowPak® dimming module with EcoSystem supports 32 EcoSystem ballasts or drivers, 9 Pico® wireless controls, 6 occupancy/vacancy sensors and 1 daylight sensor
- Low-voltage, 2-conductor EcoSystem digital link provides individual, reconfigurable fixture control
- Supports digital control and standard 3-wire line-voltage phase control technology
- Sensors can connect directly to EcoSystem ballasts; all sensor and wallstation wiring is Class 2
- Communicates with wired or wireless sensors and controls via local wired sensor connections or compatible device
- Line-voltage miswire protection of EcoSystem link
- Slim-profile design
- Ballasts maintain consistent light output for different lamp lengths, ensuring fixture-to-fixture uniformity
- Lamps turn on at any dimmed level without going to full brightness
- 100% performance-tested, including burn-in at the factory
- Non-volatile memory restores all ballast settings after power failure
- Frequency of operation ensures that ballast does not interfere with infrared devices
- Factory-tuned ballast factors available to customize the ballast for different applications

## Environment

- Sound rating: Class A
- Minimum lamp starting temperature 10°C (50°F)
- Maximum ballast case temperature 75°C (167°F)

## Mounting

- Ballast mounts using two screws (or sheet metal feature and one screw) within a fluorescent fixture
- Ballast is grounded via a mounting screw to the fixture
- Lutron® and NEMA® recommend sockets complying with IEC 60400. Sockets must have a UL mark as well. Use rapid start sockets, not instant start sockets.
- Terminals accept 16-18AWG (0.75 to 1.5mm<sup>2</sup>) solid copper or tinned stranded wire

## Wiring

- **EcoSystem digital link:** EcoSystem ballasts require four wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18 AWG solid copper Class 1 or Class 2 wire per terminal
- **3-Wire:** EcoSystem ballasts require three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18 AWG solid copper Class 1 wire per terminal
- The 16AWG control wire must not exceed 900ft, and the 18AWG must not exceed 550ft; maximum ballast-to-lamp-socket lead length is 7 ft (2 m) for T8, T5 and T5 HO linear lamps, and 3ft (1 m) for T5 twin-tube lamps
- Ballast is grounded via case

## Specifications

- Total Harmonic Distortion (THD): less than 10% (select models are less than 15%)
- Power factor greater than 0.95
- Ballast factor equal to 0.85 for T8 lamps
- Ballast factor equal to 1.0 for T5 and T5 HO lamps

High performance dimming to 5%  
EcoSystem digital link or 3-wire controlled



Shown above: EcoSystem compact ballast, K-case

**Model numbers are organized by lamp type, refer to pg. 349 for additional information.**

EcoSystem compact ballasts provide high-performance dimming for any compact fluorescent application, completing the EcoSystem solution. With a 100% to 5% dimming range for T4 CFL lamps, EcoSystem compact ballasts provide both energy savings and flexibility.

**Operating voltage**

- Universal input (120V, 220/240V, 277V @ 50/60Hz)

**Lamp types and wattages**

- T4 4-pin quad-tube CFL: 18W, 26W
- T4 4-pin triple-tube CFL: 26W, 32W, 42W

**Key standards**

- UL Listed (evaluated to the requirements of UL 935)
- UL Type 1 Outdoor for damp locations
- CSA Certified (evaluated to the requirements of C22.2 No. 74)
- Select models are NOM listed
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions

**Control options**

- EcoSystem digital link
- 3-Wire control

**Available case type**

- K-case

**Quick comparison**

Feature	EcoSystem Compact	EcoSystem pg. 28
Dimming Level	5%	10%
Integral sensor connection	No	Yes
Maximum number of lamps per ballast	2	3
Maximum ballast to lamp socket lead length	3ft (1m)	7ft (2m)

## Features

- Continuous, flicker-free dimming from 100% to 5% for T4 CFL lamps
- EcoSystem digital link allows for re-zoning without rewiring, and can be wired as Class 1 or Class 2—perfect for retrofit and new construction
- The EcoSystem digital link supports up to 64 digital ballasts, 64 occupancy sensors, 16 daylight sensors, and 64 wallstations or infrared (IR) receivers
- The PowPak® dimming module with EcoSystem supports 32 EcoSystem ballasts or drivers, 9 Pico® wireless controls, 6 occupancy/vacancy sensors and 1 daylight sensor
- Low-voltage, 2-conductor EcoSystem digital link provides individual fixture control
- Communicates with wired or wireless sensors and controls via compatible device
- Sensors cannot connect directly to EcoSystem compact ballasts
- Line-voltage miswire protection of EcoSystem link
- One model can control both 26W and 32W T4 lamps
- Ultra-low standby power (<1W) when lamps are off
- Ballasts maintain consistent light output for different lamp lengths, ensuring fixture-to-fixture uniformity
- 100% performance-tested, including burn-in at the factory

## Specifications

- Total Harmonic Distortion (THD): less than 10%
- Power factor greater than 0.95
- Ballast factor equal to 0.95 for T4 lamps
- Non-volatile memory restores all ballast settings after power failure
- Factory-tuned ballast factors available to customize the ballast for different applications

## Environment

- Sound rating: Class A
- Minimum lamp starting temperature 10°C (50°F)
- Maximum ballast case temperature 75°C (167°F)

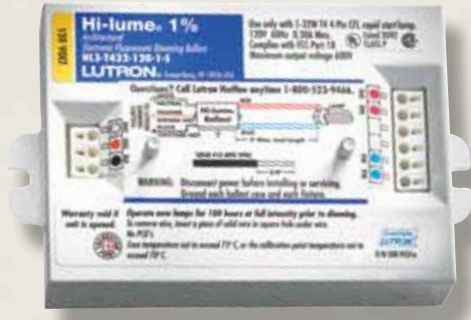
## Mounting

- Ballast mounts using two mounting tabs or studs within a fluorescent fixture
- “No studs” case option available
- Ballast is grounded via a mounting screw to the fixture
- Lutron and NEMA® recommend sockets complying with IEC 60400. Sockets must have a UL mark as well. Use rapid start sockets, not instant start sockets.
- Terminals accept 16-18AWG (0.75 to 1.5 mm<sup>2</sup>) solid copper or tinned stranded wire

## Wiring

- **EcoSystem digital link:** EcoSystem compact ballasts require four wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18AWG solid copper Class 1 or Class 2 wire per terminal
- **3-Wire:** EcoSystem compact ballasts require three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18AWG solid copper Class 1 wire per terminal
- The 16AWG control wire must not exceed 900ft, and the 18AWG must not exceed 550ft; maximum ballast-to-lamp-socket lead length is 3ft (1m) for T4 compact lamps
- Ballast is grounded via case

## Highest performance dimming to 1% 3-wire controlled



Shown above: Hi-lume ballast, A-case

**Model numbers are organized by lamp type, refer to pg. 349 for additional information.**

Experience the benefits of full-range, 100% to 1% fluorescent dimming. Designed to meet the most demanding lighting requirements, Hi-lume ballasts enable you to provide the ideal visual environment for any application. The Hi-lume family is extensive, featuring the world's only 100% to 1% dimming ballasts for T4 compact fluorescent lamps. Integrating Hi-lume 1% technology into your designs affords you full control over the lighting in any space.

### Operating voltage

- 120V or 277V @ 60Hz

### Lamp types and wattages

- T5 HO: 24W, 39W, 54W
- T4 4-pin triple-tube CFL: 26W, 32W

### Control options

- 3-wire control

### Available case types

- A-case
- C-case

### Key standards

- California Energy Commission Listed
- UL Listed (evaluated to the requirements of UL 935)
- CSA certified (evaluated to the requirements of C22.2 No. 74)
- MIL Std. 461E compliant (meets the requirements of CE101, RE101 and RE102)
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions

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## Features

- Continuous, flicker-free dimming from 100% to 1%
- Ballasts maintain consistent light output for different lamp lengths, ensuring fixture-to-fixture uniformity
- 3-wire line voltage control for consistent fixture-to-fixture dimming
- Sensors cannot connect directly to Hi-lume ballasts
- Line-voltage miswire protection
- Slim-profile design
- Lamps turn on at any dimmed level without going to full brightness
- 100% performance-tested, including burn-in at the factory

## Specifications

- Total Harmonic Distortion (THD): less than 10%
- Power factor greater than 0.95
- Ballast factor equal to 0.95 for T4 lamps
- Ballast factor equal to 1.0 for T5 HO lamps

## Environment

- Sound rating: Class A
- Minimum lamp starting temperature 10°C (50°F)
- Maximum ballast case temperature 75°C (167°F)

## Mounting

- Ballast mounts using two screws (or sheet metal feature and one screw) within a fluorescent fixture
- Ballast is grounded via a mounting screw to the fixture
- Lutron® and NEMA® recommend sockets complying with IEC 60400. Sockets must have a UL mark as well. Use rapid start sockets, not instant start sockets.
- Terminals accept 16-18AWG (0.75 to 1.5 mm<sup>2</sup>) solid copper or tinned stranded wire

## Wiring

- Hi-lume ballasts require three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18AWG solid copper Class 1 wire per terminal
- Maximum ballast-to-lamp-socket lead length is 7 ft (2 m) for T5 HO linear lamps, and 3ft (1m) for T4 compact lamps
- Ballast is grounded via case



## High performance dimming to 5% Tu-Wire controlled



Shown above: Tu-Wire ballast, B-case

**Model numbers are organized by lamp type, refer to pg. 349 for additional information.**

Tu-Wire ballasts offer high performance 100% to 5% dimming for linear and compact fluorescent lamps. Retrofit applications can benefit from the ease of installation offered by Lutron Tu-Wire dimming ballasts. Tu-Wire ballasts require only two wires (dimmed hot and neutral) for power and control. Lutron offers a wide range of compatible Tu-Wire controls, making Tu-Wire ballasts the perfect choice for many applications. Additionally, one-lamp T4 models have been designed to meet FCC Part 18 consumer requirements for residential applications.

### Operating voltage

- 120V @ 60Hz

### Lamp types and wattages

- T8 linear and U-bent: 25W, 32W
- T4 4-pin quad-tube CFL: 18W, 26W
- T4 4-pin triple-tube CFL: 18W, 26W, 32W

### Control option

- Tu-Wire control

### Available case types

- A-case
- B-case
- C-case

### Key standards

- California Energy Commission (CEC) Listed
- UL Listed (evaluated to the requirements of UL 935)
- CSA certified (evaluated to the requirements of C22.2 No. 74)—all models except T8 25W
- 1-lamp ballasts for T4 CFL meet FCC Part 18 requirements for residential use
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions

[Download specification submittal](#)

## Features

- Continuous, flicker-free dimming from 100% to 5%
- Works with all Lutron Tu-Wire fluorescent controls for consistent dimming performance
- Sensors cannot connect directly to Tu-Wire ballasts
- 2-Wire line voltage control ideal for retrofit
- Line-voltage miswire protection
- Slim-profile design
- Low-line voltage protection circuitry prevents damage to the ballast or lamps if the ballast is connected to an incompatible dimmer
- Lamps turn on at any dimmed level without going to full brightness
- 100% performance-tested, including burn-in at the factory

## Specifications

- Total Harmonic Distortion (THD) less than 20%
- Power factor greater than 0.95
- Ballast factor greater than 0.95 for T4 lamps
- Ballast factor equal to 1.0 for T8 lamps

## Environment

- Sound rating: Class A
- Minimum lamp starting temperature 10°C (50°F)
- Maximum ballast case temperature 75°C (167°F)

## Mounting

- Ballast mounts using two mounting tabs or studs within a fluorescent fixture
- Lutron and NEMA® recommend sockets complying with IEC 60400. Sockets must have a UL mark as well. Use rapid start sockets, not instant start sockets.
- Terminals accept 16-18AWG (0.75 to 1.5 mm<sup>2</sup>) solid copper or tinned stranded wire

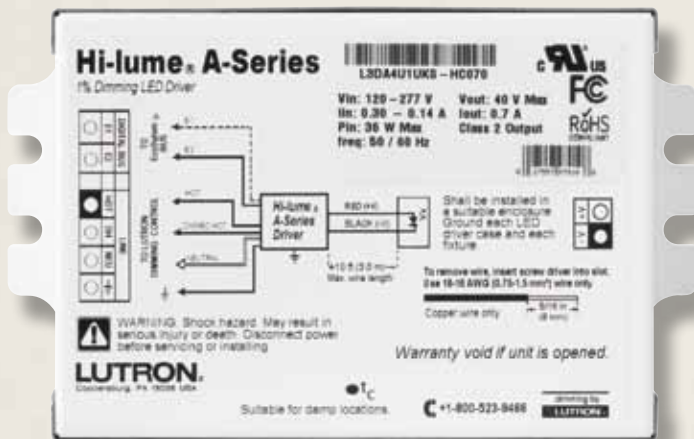
## Wiring

- Tu-Wire ballasts require two wires plus Ground (Dimmed Hot and Neutral); one 16-18AWG solid copper Class 1 wire per terminal
- Maximum ballast-to-lamp-socket lead length is 7 ft (2 m) for T8 lamps and 3 ft (1 m) for T4 compact lamps
- Ballast is grounded via case



Highest performance dimming to 1%

EcoSystem® digital link, 3-wire or 2-wire forward phase controlled



Shown above: Hi-lume A-Series LED driver, K-case

**Model number is determined by load and control type. See pg. 371 for additional information.**

Hi-lume A-Series is a high-performance LED driver that provides smooth, continuous 1% dimming for virtually any LED fixture, whether it requires constant current or constant voltage. It is the world's most versatile LED driver family offered today due to the wide variety of compatible LED arrays, multiple form factors and numerous control options.

### Operating Voltage

- Universal input (120V, 220/240V and 277 V @ 50/60Hz)
- 120V only for 2-wire forward phase models

### Control options

- 2-Wire forward phase control (neutral required at control)\*
- EcoSystem digital link
- 3-wire control

### Lamp types and wattages

- LED light engines, up to 40W\*

### Available case types

- K-case
- M-case

### LED operating specifications

#### Constant Current

- 200mA–2.1 A (in 10 mA steps)
- 5W–40W
- Pulse width modulation (PWM) or constant current reduction (CCR) dimming

#### Constant Voltage

- 10V–40V (in 0.5 V steps)
- 5W–40W
- PWM dimming

[Download specification submittal for 120V-277V](#)  
[Download specification submittal for 220V-240V](#)  
[Download specification submittal for 120V](#)

\*For a complete list of compatible controls, visit [www.lutron.com/HilumeLED](http://www.lutron.com/HilumeLED)

## Key standards

- UL 8750 Recognized
- FCC Part 15 compliant for commercial applications at 120V or 277V and for residential applications at 120V
- Meets ANSI C62.41 category A surge protection standards up to and including 4kV
- Models available to meet LED Driver requirements for Energy Star 1.1

## Features

- Continuous, flicker-free dimming from 100% to 1%
- Efficiency greater than 80% at 40W
- A rated lifetime of 50,000 hours
- EcoSystem digital link allows for re-zoning without rewiring, and can be wired as Class 1 or Class 2—perfect for retrofit and new construction
- Standard 3-wire line-voltage phase-control technology for consistent dimming performance and compatibility with all Lutron 3-wire fluorescent dimmers
- CCR and PWM dimming available for constant current light engines; constant voltage light engines operate with pulse width modulation (PWM) dimming only
- Sensors cannot connect directly to the driver
- Line-voltage miswire protection
- Instant light output at any level when turned on, without flashing to full on

## Specifications

- Power factor greater than 0.90 at 40W
- Inrush current less than 2A

## Environment

- Sound rating: Class A
- Maximum case temperature is 65°C (149°F)

## Mounting

- K-case driver typically mounts via studs or tabs to the outside of an LED fixture or on a junction box
- “No studs” case option available
- Any fixture type (downlight, cove light, sconce, under-cabinet, etc.) will work with the Hi-lume A-Series driver family, if the LED light engine operates at either the constant current or constant voltage levels specified

## Wiring

- **EcoSystem digital link:** Hi-lume A-Series LED drivers require 4 wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18AWG solid copper Class 1 or Class 2 wire per terminal
- **3-Wire:** Requires three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18AWG solid copper Class 1 wire per terminal
- **2-Wire forward phase:** Requires two wires plus Ground (Dimmed Hot and Neutral); one 16-18AWG solid copper Class 1 or Class 2 wire per terminal
- The 16AWG control wire must not exceed 900ft, and the 18AWG must not exceed 550ft; maximum driver-to-LED light engine wire length is 10ft (3m)
- Driver is grounded by a mounting screw to the grounded fixture (or by terminal connection on the K-case)

Highest performance dimming to 1%  
EcoSystem digital link controlled

**CE MODELS ONLY**



Shown above: EcoSystem LED driver, P-case

**Model number is determined by load and control type. See pg. 372 for additional information.**

Providing smooth and continuous 1% dimming, the high-performance EcoSystem LED driver works with virtually any LED fixture. It communicates via the EcoSystem digital link, a revolutionary technology that allows the driver to react to its environment. It also allows for individual control of the drivers, which eliminates the need to rewire, and provides a scalable solution for almost any application. The EcoSystem LED driver is available for fixtures requiring either constant current or constant voltage.

#### Operating Voltage

- 220–240V CE @ 50/60Hz

#### Control options

- EcoSystem digital link

#### Lamp types and wattages

- LED light engines, up to 25W

#### Available case types

- P-case

#### LED operating specifications

##### Constant Current

- 0.20A–1.05A (in 0.01 A increments)
- 5W–25W
- Pulse width modulation (PWM) or constant current reduction (CCR) dimming

##### Constant Voltage

- 8V–38V (in 0.5V increments)
- 5W–25W
- PWM dimming

[Download specification submittal](#)

## Key standards

- CE and ENEC Mark
- RoHS 2006 Compliant
- IEC Rated

## Features

- Continuous, flicker-free dimming from 100% to 1%
- Efficiency of 80% at 25W
- Protected from miswires of input power to EcoSystem control inputs
- CCR and PWM dimming available for constant current light engines; constant voltage light engines operate with pulse width modulation (PWM) dimming only
- A rated lifetime of 50,000 hours
- Independent control gear with integral strain relief
- LEDs turn on to any dimmed level without flashing to full brightness
- Sensors cannot connect directly to the driver

## Specifications

- Power factor greater than 0.95 at 25W
- Low harmonic distortion
- Inrush current less than 2A

## Environment

- Sound rating: inaudible in a 27 dB ambient environment

## Mounting

- Independent control gear, driver requires no particular mounting means

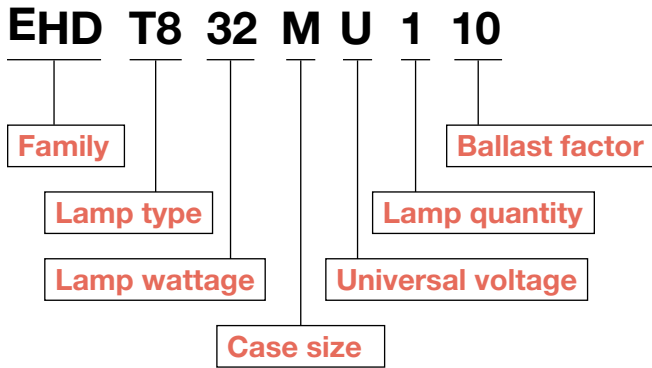
## Wiring

- EcoSystem LED drivers require four wires plus Ground (E1, E2, Live and Neutral); one 0.75 mm<sup>2</sup> to 1.5 mm<sup>2</sup> solid copper Class 1 or Class 2 wire per terminal
- The 1.5 mm<sup>2</sup> control wire must not exceed 310m, and the 0.75 mm<sup>2</sup> must not exceed 50m; maximum driver-to-LED light engine wire length is 3m for any output type

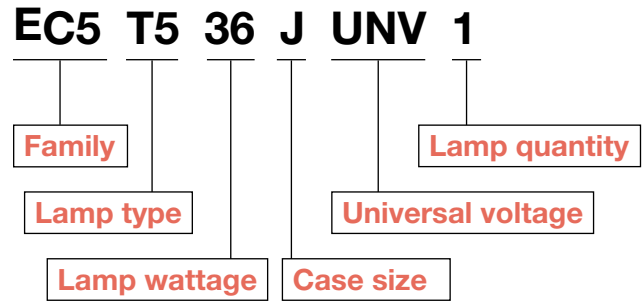
## Understanding ballast model numbers

Lutron ballast model numbers are designed to illustrate basic information about the ballast. For example:

### EcoSystem® H-Series ballasts



### EcoSystem ballasts



Generate part numbers, confirm ballast performance specifications (input power, system lumens, ballast factor) and select the proper ballast by utilizing the Ballast Selection Tool.

This tool also enables users to choose a Custom Ballast Factor (percentage of light output for a given lamp ballast combination). Reduced ballast factors achieve greater energy savings and are available for all Lutron ballasts with EcoSystem control.

**NEW**



Updated Ballast Selection Tool with Custom Ballast Factor. Find and configure the ballast that best fits your project: [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

## T8 and U-bent

### EcoSystem® H-Series (1% or less dimming) universal voltage digital dimming ballasts

- Dimming to 1% or less
- Compatible with Lutron EcoSystem digital controls
- Energy saving and cost effective


Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
17W (24 in)	1	<b>EHD T817 M U 1 10</b>	M	277	0.08	22.2	1.00	1,300	90	4.51	0.77
				240	0.09	21.6	1.00	1,300	93	4.63	0.79
				120	0.18	21.6	1.00	1,300	93	4.63	0.79
	2	<b>EHD T817 M U 2 10</b>	M	277	0.15	41.6	1.00	2,600	96	2.41	0.82
				240	0.18	43.2	1.00	2,600	93	2.31	0.79
				120	0.35	42.0	1.00	2,600	95	2.38	0.81
25W (36 in)	1	<b>EHD T825 M U 1 10</b>	M	277	0.11	30.5	1.00	1,900	62	3.28	0.82
				240	0.11	26.4	1.00	1,900	72	3.79	0.95
				120	0.26	31.2	1.00	1,900	61	3.21	0.80
	2	<b>EHD T825 M U 2 10</b>	M	277	0.20	55.4	1.00	3,800	69	1.81	0.90
				240	0.23	55.2	1.00	3,800	69	1.81	0.91
				120	0.47	56.4	1.00	3,800	67	1.77	0.89
32W (48 in)	1	<b>EHD T832 M U 1 10</b>	M	277	0.12	33.2	1.00	3,000	90	3.01	0.96
				240	0.14	33.6	1.00	3,000	89	2.98	0.95
				120	0.29	34.8	1.00	3,000	86	3.01	0.92
		<b>EHD T832 M U 1 17</b>	M	277	0.15	41.6	1.17	3,510	84	2.82	0.92
				240	0.17	40.8	1.17	3,510	86	2.87	0.92
				120	0.34	40.8	1.17	3,510	86	2.87	0.90
	2	<b>EHD T832 M U 2 10</b>	M	277	0.24	66.5	1.00	6,000	90	1.50	0.96
				240	0.28	67.2	1.00	6,000	89	1.49	0.95
				120	0.57	68.4	1.00	6,000	88	1.46	0.94
		<b>EHD T832 M U 2 17</b>	M	277	0.28	77.6	1.17	7,020	91	1.51	0.97
				240	0.32	76.8	1.17	7,020	91	1.52	0.98
				120	0.65	78.0	1.17	7,020	90	1.50	0.96
	3	<b>EHD T832 G U 3 10</b>	G	277	0.37	93.5	1.00	9,000	96	1.07	1.03
				240	0.40	94.9	1.00	9,000	95	1.05	1.01
				120	0.83	95.4	1.00	9,000	94	1.05	1.01
<b>EHD T832 G U 3 17</b>		G	277	0.41	105.7	1.17	10,530	100	1.11	1.06	
			240	0.47	106.5	1.17	10,530	99	1.10	1.05	
			120	0.95	106.8	1.17	10,530	99	1.10	1.05	

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T8 and U-bent (continued) 

**Hi-lume® 3D (1% or less dimming) universal voltage digital dimming ballasts**

- Dimming to 1% or less
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem® digital controls
- Energy saving

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
17W (24 in)	1	<b>H3D T817 C U 1 10</b> <b>H3D T817 G U 1 10</b>	C	277	0.08	22.2	1.00	1,300	59	4.51	0.77
			G	240	0.09	21.6	1.00	1,300	60	4.63	0.79
			G	120	0.18	21.6	1.00	1,300	60	4.63	0.79
		<b>H3D T817 C U 1 17</b> <b>H3D T817 G U 1 17</b>	C	277	0.08	22.2	1.17	1,521	69	5.28	0.90
			G	240	0.10	24.0	1.17	1,521	63	4.88	0.83
			G	120	0.19	22.8	1.17	1,521	67	5.13	0.87
	2	<b>H3D T817 C U 2 10</b> <b>H3D T817 G U 2 10</b>	C	277	0.15	41.6	1.00	2,600	63	2.41	0.82
			G	240	0.18	43.2	1.00	2,600	60	2.31	0.79
			G	120	0.35	42.0	1.00	2,600	62	2.38	0.81
		<b>H3D T817 C U 2 17</b> <b>H3D T817 G U 2 17</b>	C	277	0.15	41.6	1.17	3,042	73	2.82	0.96
			G	240	0.17	40.8	1.17	3,042	75	2.87	0.98
			G	120	0.35	42.0	1.17	3,042	72	2.79	0.95
	3	<b>H3D T817 G U 3 10</b>	G	277	0.21	58.2	1.00	3,900	67	1.72	0.88
			G	240	0.25	60.0	1.00	3,900	65	1.67	0.85
			G	120	0.48	57.6	1.00	3,900	68	1.74	0.89
		<b>H3D T817 G U 3 17</b>	G	277	0.23	63.7	1.17	4,563	72	1.84	0.94
			G	240	0.27	64.8	1.17	4,563	70	1.81	0.92
			G	120	0.55	66.0	1.17	4,563	69	1.77	0.90
25W (36 in)	1	<b>H3D T825 C U 1 10</b>	C	277	0.11	30.5	1.00	1,900	62	3.28	0.82
			C	240	0.11	26.4	1.00	1,900	72	3.79	0.95
			C	120	0.26	31.2	1.00	1,900	61	3.21	0.80
		<b>H3D T825 C U 1 17</b>	C	277	0.12	33.2	1.17	2,223	67	3.52	0.88
			C	240	0.14	33.6	1.17	2,223	66	3.48	0.87
			C	120	0.28	33.6	1.17	2,223	66	3.48	0.87
	2	<b>H3D T825 C U 2 10</b>	C	277	0.20	55.4	1.00	3,800	69	1.81	0.90
			C	240	0.23	55.2	1.00	3,800	69	1.81	0.91
			C	120	0.47	56.4	1.00	3,800	67	1.77	0.89
		<b>H3D T825 C U 2 17</b>	C	277	0.22	60.9	1.17	4,446	73	1.92	0.96
			C	240	0.25	60.0	1.17	4,446	74	1.95	0.98
			C	120	0.51	61.2	1.17	4,446	73	1.91	0.96


Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

†Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.




T8 and U-bent (continued) 

<b>Hi-lume 3D (1% or less dimming) universal voltage digital dimming ballasts</b>												
Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)	
32W (48 in)	1	<b>H3D T832 C U 1 10</b> <b>H3D T832 G U 1 10</b>	C	277	0.12	33.2	1.00	3,000	90	3.01	0.96	
			G	240	0.14	33.6	1.00	3,000	89	2.98	0.95	
				120	0.29	34.8	1.00	3,000	86	2.87	0.92	
		<b>H3D T832 C U 1 17</b> <b>H3D T832 G U 1 17</b>	C	277	0.15	41.6	1.17	3,510	84	2.82	0.90	
			G	240	0.17	40.8	1.17	3,510	86	2.87	0.92	
				120	0.34	40.8	1.17	3,510	86	2.87	0.92	
	2	<b>H3D T832 C U 2 10</b> <b>H3D T832 G U 2 10</b>	C	277	0.24	66.5	1.00	6,000	90	1.50	0.96	
			G	240	0.28	67.2	1.00	6,000	89	1.49	0.95	
				120	0.57	68.4	1.00	6,000	88	1.46	0.94	
		<b>H3D T832 C U 2 17</b> <b>H3D T832 G U 2 17</b>	C	277	0.28	77.6	1.17	7,020	91	1.51	0.97	
			G	240	0.32	76.8	1.17	7,020	91	1.52	0.98	
				120	0.65	78.0	1.17	7,020	90	1.50	0.96	
	3	<b>H3D T832 G U 3 10</b>	G	277	0.37	102.5	1.00	9,000	88	0.98	0.94	
				240	0.40	96.0	1.00	9,000	94	1.04	1.00	
				120	0.83	99.6	1.00	9,000	90	1.00	0.96	
		<b>H3D T832 G U 3 17</b>	G	277	0.41	113.6	1.17	10,530	93	1.03	0.99	
				240	0.47	112.8	1.17	10,530	93	1.04	1.00	
				120	0.95	114.0	1.17	10,530	92	1.03	0.99	
40W (60 in)	1	<b>H3D T840 C U 1 10</b>	C	277	0.16	42.8	1.00	3,800	89	2.34	0.94	
				240	0.18	43.0	1.00	3,800	88	2.33	0.93	
				120	0.37	43.8	1.00	3,800	87	2.28	0.91	
		<b>H3D T840 C U 1 17</b>	C	277	0.18	49.6	1.17	4,446	90	2.36	0.94	
				240	0.21	49.4	1.17	4,446	90	2.37	0.95	
				120	0.43	50.6	1.17	4,446	88	2.31	0.92	
	2	<b>H3D T840 C U 2 10</b>	C	277	0.32	88.9	1.00	7,600	86	1.13	0.90	
				240	0.37	88.4	1.00	7,600	86	1.13	0.91	
				120	0.77	90.9	1.00	7,600	84	1.10	0.88	
		<b>H3D T840 C U 2 17</b>	C	277	0.36	98.2	1.17	8,892	91	1.19	0.95	
				240	0.41	97.2	1.17	8,892	92	1.20	0.96	
				120	0.84	100.3	1.17	8,892	89	1.17	0.93	

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)  
 \*For case type information see pgs. 328-331.  
 \*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)  
 †Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.



T8 and U-bent (continued) 

**Tu-Wire® (5% dimming) 120V dimming ballasts**


- Dimming to 5%
- Compatible with Lutron Tu-Wire fluorescent controls
- Energy saving

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
25W (36 in)	1	<b>2W-T825-120-1</b>	C	120	0.30	36.0	0.85	1,828	51	2.36	0.76
	2	<b>2W-T825-120-2</b>	C	120	0.50	60.0	0.85	3,655	61	1.42	0.91
32W (48 in)	1	<b>2W-T832-120-1</b>	C	120	0.37	44.4	0.85	2,550	57	1.91	0.61
	2	<b>2W-T832-120-2</b>	C	120	0.70	84.0	0.85	5,100	61	1.01	0.65

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T8 and U-bent (continued) 

**EcoSystem® (10% dimming) universal voltage digital dimming ballasts**

- Dimming to 10%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Integral sensor connections

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
17W (24 in)	1	<b>EC5 T817 J UNV 1</b>	J	277	0.08	20.6	0.85	1,190	58	4.13	0.70
				240	0.08	20.0	0.85	1,190	60	4.25	0.72
				120	0.17	20.1	0.85	1,190	59	4.23	0.72
	2	<b>EC5 T817 J UNV 2</b>	J	277	0.13	36.2	0.85	2,380	66	2.35	0.80
				240	0.15	37.0	0.85	2,380	64	2.30	0.78
				120	0.31	37.0	0.85	2,380	64	2.30	0.78
25W (36 in)	1	<b>EC5 T825 J UNV 1</b>	J	277	0.10	27.6	0.85	1,828	66	3.08	0.77
				240	0.11	27.0	0.85	1,828	68	3.15	0.79
				120	0.23	26.9	0.85	1,828	68	3.16	0.79
	2	<b>EC5 T825 J UNV 2</b>	J	277	0.18	48.9	0.85	3,665	75	1.74	0.87
				240	0.20	49.0	0.85	3,665	75	1.73	0.87
				120	0.41	49.0	0.85	3,665	75	1.73	0.87
32W (48 in)	1	<b>EC5 T832 J UNV 1</b>	J	277	0.11	31.6	0.85	2,550	81	2.69	0.86
				240	0.13	31.0	0.85	2,550	82	2.74	0.87
				120	0.26	31.3	0.85	2,550	81	2.72	0.87
	2	<b>EC5 T832 J UNV 2</b>	J	277	0.21	57.4	0.85	5,100	89	1.48	0.95
				240	0.25	59.0	0.85	5,100	86	1.44	0.92
				120	0.49	59.1	0.85	5,100	86	1.44	0.92
	3	<b>EC5 T832 G UNV 2L††</b>	G	277	0.22	59.6	0.85	5,100	86	1.43	0.91
				240	0.25	57.6	0.85	5,100	89	1.48	0.94
				120	0.49	58.8	0.85	5,100	87	1.45	0.93
		<b>EC5 T832 G UNV 3L††</b>	G	277	0.31	86.5	0.85	7,650	88	0.98	0.94
				240	0.36	84.0	0.85	7,650	89	1.01	0.97
				120	0.72	85.9	0.85	7,650	89	0.99	0.95
<b>EC5 T832 G UNV 317L††</b>	G	277	0.41	105.7	1.17	10,530	100	1.11	1.06		
		240	0.47	106.5	1.17	10,530	99	1.10	1.05		
		120	0.95	106.8	1.17	10,530	99	1.10	1.05		

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

†Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

††Ballast ships with leads.

Reduced Wattage T8 and U-bent 

**EcoSystem® (10% dimming) universal voltage digital dimming ballasts**

- Dimming to 10% for reduced wattage (energy saving) lamps
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Integral sensor connections

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
25W (48 in)	1	<b>EC5 T8RW J UNV 1</b>	J	277	0.09	24.8	0.85	2,061	83	3.43	0.86
				240	0.10	24.5	0.85	2,061	84	3.47	0.87
				120	0.21	24.9	0.85	2,061	83	3.41	0.85
	2	<b>EC5 T8RW J UNV 2</b>	J	277	0.17	46.6	0.85	4,123	88	1.82	0.91
				240	0.19	45.9	0.85	4,123	90	1.85	0.93
				120	0.38	46.5	0.85	4,123	89	1.83	0.91
	3	<b>EC5 T8RW G UNV 3L<sup>††</sup></b>	G	277	0.25	67.9	0.85	6,184	91	1.25	0.94
				240	0.28	67.4	0.85	6,184	92	1.26	0.95
				120	0.58	69.0	0.85	6,184	90	1.23	0.92
28W (48 in)	1	<b>EC5 T8RW J UNV 1</b>	J	277	0.10	26.3	0.85	2,202	84	3.23	0.90
				240	0.11	26.2	0.85	2,202	84	3.24	0.91
				120	0.22	26.5	0.85	2,202	83	3.21	0.90
	2	<b>EC5 T8RW J UNV 2</b>	J	277	0.18	48.9	0.85	4,403	90	1.74	0.97
				240	0.20	48.6	0.85	4,403	91	1.75	0.98
				120	0.42	50.0	0.85	4,403	88	1.70	0.95
	3	<b>EC5 T8RW G UNV 3L<sup>††</sup></b>	G	277	0.26	71.1	0.85	6,605	93	1.20	1.00
				240	0.30	70.4	0.85	6,605	94	1.21	1.01
				120	0.60	71.6	0.85	6,605	92	1.19	1.00
30W (48 in)	1	<b>EC5 T8RW J UNV 1</b>	J	277	0.11	28.9	0.85	2,350	81	2.94	0.88
				240	0.12	28.7	0.85	2,350	82	2.96	0.89
				120	0.24	29.2	0.85	2,350	80	2.91	0.87
	2	<b>EC5 T8RW J UNV 2</b>	J	277	0.19	52.5	0.85	4,701	90	1.62	0.97
				240	0.22	52.5	0.85	4,701	90	1.62	0.97
				120	0.44	53.4	0.85	4,701	88	1.59	0.96
	3	<b>EC5 T8RW G UNV 3L</b>	G	277	0.28	76.3	0.85	7,051	92	1.11	1.00
				240	0.32	76.3	0.85	7,051	92	1.11	1.00
				120	0.65	78.1	0.85	7,051	90	1.09	0.98

Please consult lamp manufacturer's specification to determine the dimmability of the reduced wattage lamp.

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

## T5 Linear

### EcoSystem H-Series (1% dimming) universal voltage digital dimming ballasts

- Dimming to 1%
- Compatible with Lutron EcoSystem digital controls
- Energy saving and cost effective

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
14W (21.6 in)	1	<b>EHD T514 M U 1 10</b>	M	277	0.07	19.4	1.00	1,350	70	5.16	0.72
				240	0.08	19.2	1.00	1,350	70	5.21	0.73
				120	0.16	19.2	1.00	1,350	70	5.21	0.73
	2	<b>EHD T514 M U 2 10</b>	M	277	0.13	36.0	1.00	2,700	75	2.78	0.78
				240	0.15	36.0	1.00	2,700	75	2.78	0.78
				120	0.31	36.0	1.00	2,700	75	2.78	0.78
14W (549 mm)	1	<b>EHD T514 M E 1 10</b>	M	240	0,08	19,2	1,00	1 350	70	5,21	0,73
				220	0,09	19,8	1,00	1 350	68	5,05	0,71
	2	<b>EHD T514 M E 2 10</b>	M	240	0,15	36,0	1,00	2 700	75	2,78	0,78
				220	0,16	35,2	1,00	2 700	77	2,84	0,80
21W (33.4 in)	1	<b>EHD T521 M U 1 10</b>	M	277	0.10	26.6	1.00	2,100	79	3.76	0.79
				240	0.11	26.3	1.00	2,100	80	3.81	0.80
				120	0.22	26.3	1.00	2,100	80	3.81	0.80
	2	<b>EHD T521 M U 2 10</b>	M	277	0.18	48.5	1.00	4,200	87	2.06	0.87
				240	0.20	48.6	1.00	4,200	86	2.06	0.86
				120	0.41	48.7	1.00	4,200	86	2.05	0.86
21W (848 mm)	1	<b>EHD T521 M E 1 10</b>	M	240	0,11	26,4	1,00	2 100	80	3,79	0,80
				220	0,12	26,4	1,00	2 100	80	3,79	0,80
	2	<b>EHD T521 M E 2 10</b>	M	240	0,20	48,0	1,00	4 200	88	2,08	0,88
				220	0,21	46,2	1,00	4 200	91	2,16	0,91
28W (45.2 in)	1	<b>EHD T528 M U 1 10</b>	M	277	0.12	33.0	1.00	2,900	88	3.03	0.85
				240	0.13	31.2	1.00	2,900	93	3.21	0.90
				120	0.28	33.6	1.00	2,900	86	2.98	0.83
	2	<b>EHD T528 M U 2 10</b>	M	277	0.22	59.8	1.00	5,800	97	1.67	0.94
				240	0.26	62.4	1.00	5,800	93	1.60	0.90
				120	0.52	62.4	1.00	5,800	93	1.60	0.90
28W (1 148 mm)	1	<b>EHD T528 M E1 10</b>	M	240	0,13	31,2	1,00	2 900	93	3,21	0,90
				220	0,15	33,0	1,00	2 900	88	3,03	0,85
	2	<b>EHD T528 M E 2 10</b>	M	240	0,26	62,4	1,00	5 800	93	1,60	0,90
				220	0,29	63,8	1,00	5 800	91	1,57	0,88

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T5 Linear (continued) 

**Hi-lume® 3D (1% dimming) universal voltage digital dimming ballasts**

- Dimming to 1%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem® digital controls
- Energy saving

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
14W (21.6 in)	1	<b>H3D T514 C U 1 10</b>	C	277	0.07	19.4	1.00	1,350	70	5.16	0.72
				240	0.08	19.2	1.00	1,350	70	5.21	0.73
				120	0.16	19.2	1.00	1,350	70	5.21	0.73
	2	<b>H3D T514 C U 2 10</b>	C	277	0.13	36.0	1.00	2,700	75	2.78	0.78
				240	0.15	36.0	1.00	2,700	75	2.78	0.78
				120	0.30	36.0	1.00	2,700	75	2.78	0.78
21W (33.4 in)	1	<b>H3D T521 C U 1 10</b>	C	277	0.10	26.6	1.00	2,100	79	3.76	0.79
				240	0.11	26.3	1.00	2,100	80	3.81	0.80
				120	0.22	26.3	1.00	2,100	80	3.81	0.80
	2	<b>H3D T521 C U 2 10</b>	C	277	0.18	48.5	1.00	4,200	87	2.06	0.87
				240	0.20	48.6	1.00	4,200	86	2.06	0.86
				120	0.41	48.7	1.00	4,200	86	2.05	0.86
28W (45.2 in)	1	<b>H3D T528 C U 1 10</b>	C	277	0.12	33.0	1.00	2,900	88	3.63	0.85
				240	0.13	31.2	1.00	2,900	93	3.21	0.90
				120	0.28	33.6	1.00	2,900	86	2.98	0.83
	2	<b>H3D T528 C U 2 10</b>	C	277	0.22	59.8	1.00	5,800	97	1.67	0.94
				240	0.26	62.4	1.00	5,800	93	1.60	0.90
				120	0.52	62.4	1.00	5,800	93	1.60	0.90

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T5 Linear (continued) 

**EcoSystem (10% dimming) universal voltage digital dimming ballasts**

- Dimming to 10%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Integral sensor connections

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
14W (21.6 in)	1	<b>EC5 T514 J UNV 1</b>	J	277	0.07	19.0	1.00	1,350	71	5.26	0.74
				240	0.08	19.2	1.00	1,350	70	5.21	0.74
				120	0.16	19.2	1.00	1,350	70	5.21	0.74
	2	<b>EC5 T514 J UNV 2</b>	J	277	0.12	32.8	1.00	2,700	82	3.05	0.85
				240	0.14	33.3	1.00	2,700	81	3.00	0.85
				120	0.28	33.3	1.00	2,700	81	3.00	0.85
21W (33.4 in)	1	<b>EC5 T521 J UNV 1</b>	J	277	0.09	24.9	1.00	2,100	84	4.01	0.84
				240	0.12	28.8	1.00	2,100	73	3.47	0.73
				120	0.22	26.4	1.00	2,100	80	3.79	0.80
	2	<b>EC5 T521 J UNV 2</b>	J	277	0.17	46.0	1.00	4,200	91	2.17	0.91
				240	0.20	47.2	1.00	4,200	89	2.12	0.89
				120	0.39	47.2	1.00	4,200	89	2.12	0.89
28W (45.2 in)	1	<b>EC5 T528 J UNV 1</b>	J	277	0.12	32.6	1.00	2,900	89	3.07	0.86
				240	0.14	32.9	1.00	2,900	88	3.04	0.85
				120	0.27	32.9	1.00	2,900	88	3.04	0.85
	2	<b>EC5 T528 J UNV 2</b>	J	277	0.23	64.5	1.00	5,800	90	1.55	0.87
				240	0.27	65.0	1.00	5,800	89	1.54	0.86
				120	0.54	65.2	1.00	5,800	89	1.53	0.86
35W (57.1 in)	1	<b>EC5 T535 J UNV 1</b>	J	277	0.15	42.0	1.00	3,650	87	2.38	0.83
				240	0.18	42.3	1.00	3,650	87	2.38	0.83
				120	0.35	42.2	1.00	3,650	87	2.38	0.83

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T5 HO Linear 

**EcoSystem® H-Series (1% dimming) universal voltage digital dimming ballasts**

- Dimming to 1%
- Compatible with Lutron EcoSystem digital controls
- Energy saving and cost effective

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
24W (21.6 in)	1	<b>EHD T524 M U 1 10</b>	M	277	0.10	27.7	1.00	2,000	72	3.61	0.87
				240	0.12	28.8	1.00	2,000	69	3.47	0.83
				120	0.25	30.0	1.00	2,000	67	3.33	0.80
	2	<b>EHD T524 M U 2 10</b>	M	277	0.20	55.4	1.00	4,000	72	1.81	0.87
				240	0.23	55.2	1.00	4,000	72	1.81	0.87
				120	0.46	54.6	1.00	4,000	73	1.83	0.88
24W (549 mm)	1	<b>EHD T524 M E 1 10</b>	M	240	0,12	28,8	1,00	2 000	69	3,47	0,83
				220	0,13	28,6	1,00	2 000	70	3,50	0,84
				240	0,22	52,8	1,00	4 000	76	1,89	0,91
	2	<b>EHD T524 M E 2 10</b>	M	220	0,25	55,0	1,00	4 000	73	1,82	0,87
				277	0.17	46.0	1.00	3,500	76	2.17	0.85
				240	0.19	44.9	1.00	3,500	78	2.23	0.87
39W (33.4 in)	1	<b>EHD T539 M U 1 10</b>	M	120	0.37	44.4	1.00	3,500	79	2.25	0.88
				277	0.29	81.4	1.00	7,000	86	1.23	0.96
				240	0.35	84.0	1.00	7,000	83	1.19	0.93
	2	<b>EHD T539 M U 2 10</b>	M	120	0.70	84.0	1.00	7,000	83	1.19	0.93
				240	0,18	43,2	1,00	3 500	81	2,31	0,90
				220	0,19	41,8	1,00	3 500	84	2,39	0,93
39W (848 mm)	1	<b>EHD T539 M E 1 10</b>	M	240	0,34	81,6	1,00	7 000	86	1,23	0,96
				220	0,39	85,8	1,00	7 000	82	1,17	0,91
				277	0.23	63.7	1.00	5,000	78	1.57	0.85
	2	<b>EHD T554 M U 2 10</b>	M	240	0.26	62.4	1.00	5,000	80	1.60	0.87
				120	0.54	64.8	1.00	5,000	77	1.54	0.83
				277	0.42	116.3	1.00	10,000	86	0.86	0.93
54W (45.2 in)	1	<b>EHD T554 M U 1 10</b>	M	240	0.48	115.2	1.00	10,000	87	0.87	0.94
				120	0.95	114.0	1.00	10,000	88	0.88	0.95
				240	0,26	62,4	1,00	5 000	80	1,60	0,87
	2	<b>EHD T554 M E 2 10</b>	M	220	0,29	63,8	1,00	5 000	78	1,57	0,85
				240	0,48	115,2	1,00	10 000	87	0,87	0,94
				220	0,51	112,2	1,00	10 000	89	0,89	0,96

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

†Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T5 HO Linear (continued) 

**Hi-lume® 3D (1% dimming) universal voltage digital dimming ballasts**

- Dimming to 1%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Energy saving

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
24W (21.6 in)	1	<b>H3D T524 C U 1 10</b>	C	277	0.10	27.7	1.00	2,000	72	3.61	0.87
				240	0.12	28.8	1.00	2,000	69	3.47	0.83
				120	0.25	30.0	1.00	2,000	67	3.33	0.80
	2	<b>H3D T524 C U 2 10</b>	C	277	0.20	55.4	1.00	4,000	72	1.81	0.87
				240	0.23	55.2	1.00	4,000	72	1.81	0.87
				120	0.46	54.6	1.00	4,000	73	1.83	0.88
39W (33.4 in)	1	<b>H3D T539 C U 1 10</b>	C	277	0.17	46.0	1.00	3,500	76	2.17	0.85
				240	0.19	44.9	1.00	3,500	78	2.23	0.87
				120	0.37	44.4	1.00	3,500	79	2.25	0.88
	2	<b>H3D T539 C U 2 10</b>	C	277	0.29	81.4	1.00	7,000	86	1.23	0.96
				240	0.35	84.0	1.00	7,000	83	1.19	0.93
				120	0.70	84.0	1.00	7,000	83	1.19	0.93
54W (45.2 in)	1	<b>H3D T554 C U 1 10</b>	C	277	0.23	63.7	1.00	5,000	78	1.57	0.85
				240	0.26	62.4	1.00	5,000	80	1.60	0.87
				120	0.54	64.8	1.00	5,000	77	1.54	0.83
	2	<b>H3D T554 C U 2 10</b>	C	277	0.42	116.3	1.00	10,000	86	0.86	0.93
				240	0.48	115.2	1.00	10,000	87	0.87	0.94
				120	0.95	114.0	1.00	10,000	88	0.88	0.95

**Hi-lume® 3D (5% dimming) universal voltage digital dimming ballasts**

- Dimming to 5%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Energy saving

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
80W (57.1 in)	1	<b>H3D T580 C U 1 10</b>	C	277	0.32	1.00	88.6	7000	79	1.13	0.90
				240	0.37	1.00	88.8	7000	79	1.13	0.90
				120	0.73	1.00	87.6	7000	80	1.14	0.91


Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.



T5 HO Linear (continued) 

**Hi-lume® (1% dimming) 120V and 277V dimming ballasts**

- Dimming to 1%
- Compatible with Lutron 3-wire fluorescent controls
- Energy saving


Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
24W (21.6 in)	1	<b>FDB-T524-277-1</b>	C	277	0.15	36.0	1.00	2,000	56	2.78	0.67
		<b>FDB-T524-120-1</b>		120	0.31	31.2	1.00	2,000	64	3.21	0.77
	2	<b>FDB-T524-277-2</b>	C	277	0.24	55.4	1.00	4,000	72	1.81	0.87
		<b>FDB-T524-120-2</b>		120	0.62	54.0	1.00	4,000	74	1.85	0.89
39W (33.4 in)	1	<b>FDB-T539-277-1</b>	C	277	0.19	47.1	1.00	3,500	74	2.12	0.83
		<b>FDB-T539-120-1</b>		120	0.38	45.6	1.00	3,500	77	2.19	0.86
	2	<b>FDB-T539-277-2</b>	C	277	0.32	85.9	1.00	7,000	82	1.16	0.91
		<b>FDB-T539-120-2</b>		120	0.76	91.2	1.00	7,000	77	1.10	0.86
54W (45.2 in)	1	<b>FDB-T554-277-1</b>	C	277	0.25	69.3	1.00	5,000	72	1.44	0.78
		<b>FDB-T554-120-1</b>		120	0.58	69.6	1.00	5,000	72	1.44	0.78
	2	<b>FDB-T554-277-2</b>	C	277	0.45	124.7	1.00	10,000	80	0.80	0.87
		<b>FDB-T554-120-2</b>		120	1.10	132.0	1.00	10,000	76	0.76	0.82

Select Hi-lume ballasts have been discontinued. Please refer to The Fluorescent ballast and LED driver selection guide (367-2248) for discontinued ballasts and drivers.

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T5 HO Linear (continued) 

**EcoSystem® (10% dimming) universal voltage digital dimming ballasts**

- Dimming to 10%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Integral sensor connections

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
24W (21.6 in)	1	<b>EC5 T524 J UNV 1</b>	J	277	0.11	30.0	1.00	2,000	67	3.33	0.80
				240	0.13	28.8	1.00	2,000	69	3.47	0.83
				120	0.24	28.8	1.00	2,000	69	3.47	0.83
	2	<b>EC5 T524 J UNV 2</b>	J	277	0.20	54.8	1.00	4,000	73	1.82	0.89
				240	0.23	54.0	1.00	4,000	74	1.85	0.89
				120	0.45	53.9	1.00	4,000	74	1.86	0.89
39W (33.4 in)	1	<b>EC5 T539 J UNV 1</b>	J	277	0.16	43.3	1.00	3,500	81	2.31	0.90
				240	0.18	44.0	1.00	3,500	80	2.27	0.89
				120	0.37	44.0	1.00	3,500	80	2.27	0.89
	2	<b>EC5 T539 J UNV 2</b>	J	277	0.30	83.0	1.00	7,000	84	1.20	0.94
				240	0.35	84.0	1.00	7,000	83	1.19	0.93
				120	0.70	84.3	1.00	7,000	83	1.19	0.93
54W (45.2 in)	1	<b>EC5 T554 J UNV 1</b>	J	277	0.21	56.5	1.00	5,000	88	1.77	0.96
				240	0.24	58.0	1.00	5,000	86	1.73	0.93
				120	0.48	57.9	1.00	5,000	86	1.73	0.93
	2	<b>EC5 T554 J UNV 2</b>	J	277	0.40	110.1	1.00	10,000	91	0.91	0.98
				240	0.52	119.0	1.00	10,000	84	0.84	0.91
				120	0.99	119.3	1.00	10,000	84	0.84	0.91

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T5 Twin-Tube 

**Hi-lume® 3D (5% dimming) universal voltage digital dimming ballasts**

- Dimming to 5%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem® digital controls
- Energy saving

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
36W (15.5 in)	1	<b>H3D T536 G U 1 10</b>	G	277	0.14	38.4	1.00	2,850	74	2.60	1.04
				240	0.17	40.4	1.00	2,850	71	2.48	0.99
				120	0.33	39.2	1.00	2,850	73	2.55	1.02
	2	<b>H3D T536 G U 2 10</b>	G	277	0.26	71.3	1.00	5,700	80	1.40	1.12
				240	0.31	73.7	1.00	5,700	77	1.36	1.09
				120	0.61	72.5	1.00	5,700	79	1.38	1.10
40W (22.5 in)	1	<b>H3D T540 G U 1 10</b>	G	277	0.16	43.9	1.00	3,100	71	2.28	0.91
				240	0.18	42.8	1.00	3,100	72	2.34	0.93
				120	0.36	42.8	1.00	3,100	72	2.34	0.93
	2	<b>H3D T540 G U 2 10</b>	G	277	0.27	74.0	1.00	6,200	84	1.35	1.08
				240	0.32	76.0	1.00	6,200	82	1.32	1.05
				120	0.64	76.0	1.00	6,200	82	1.32	1.05
	3	<b>H3D T540 G U 3 10</b>	G	277	0.40	109.7	1.00	9,300	85	0.91	1.09
				240	0.47	111.7	1.00	9,300	83	0.90	1.07
				120	0.95	112.9	1.00	9,300	82	0.89	1.06
50W (22.5 in)	1	<b>H3D T550 G U 1 10</b>	G	277	0.20	54.8	1.00	4,000	73	1.82	0.91
				240	0.23	54.6	1.00	4,000	73	1.83	0.92
				120	0.45	53.5	1.00	4,000	75	1.87	0.93
	2	<b>H3D T550 G U 2 10</b>	G	277	0.36	98.7	1.00	8,000	81	1.01	1.01
				240	0.42	99.8	1.00	8,000	80	1.00	1.00
				120	0.84	99.8	1.00	8,000	80	1.00	1.00

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

†Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

## T5 Twin-Tube (continued)

### EcoSystem (10% dimming) universal voltage digital dimming ballasts

- Dimming to 10%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Integral sensor connections

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
36/39W (15.5 in)	1	<b>EC5 T536 J UNV 1</b>	J	277	0.14	38.8	1.00	2,850	73	2.57	0.93
				240	0.17	39.6	1.00	2,850	72	2.53	0.91
				120	0.33	39.6	1.00	2,850	72	2.53	0.91
	2	<b>EC5 T536 J UNV 2</b>	J	277	0.26	72.0	1.00	5,700	79	1.39	1.00
				240	0.31	73.2	1.00	5,700	78	1.37	0.98
				120	0.61	73.2	1.00	5,700	78	1.37	0.98
40W (22.5 in)	1	<b>EC5 T540 J UNV 1</b>	J	277	0.16	44.3	1.00	3,100	70	2.26	0.90
				240	0.18	43.2	1.00	3,100	72	2.31	0.93
				120	0.36	43.2	1.00	3,100	72	2.31	0.93
	2	<b>EC5 T540 J UNV 2</b>	J	277	0.27	74.8	1.00	6,200	83	1.34	1.07
				240	0.32	76.8	1.00	6,200	81	1.30	1.04
				120	0.64	76.8	1.00	6,200	81	1.30	1.04
	3	<b>EC5 T540 G UNV 3L<sup>††</sup></b>	G	277	0.40	111.3	1.00	9,300	84	0.90	1.08
				240	0.47	112.4	1.00	9,300	83	0.89	1.07
				120	0.95	113.2	1.00	9,300	82	0.88	1.06
50W (22.5 in)	1	<b>EC5 T550 J UNV 1</b>	J	277	0.20	55.4	1.00	4,000	72	1.81	0.90
				240	0.23	54.0	1.00	4,000	72	1.85	0.93
				120	0.45	54.0	1.00	4,000	74	1.85	0.93
	2	<b>EC5 T550 J UNV 2</b>	J	277	0.36	99.7	1.00	8,000	80	1.00	1.00
				240	0.42	100.8	1.00	8,000	79	0.99	0.99
				120	0.84	100.8	1.00	8,000	79	0.99	0.99
55W (20.7 in)	1	<b>EC5 T555 J UNV 1</b>	J	277	0.20	55.4	0.90	4,320	78	1.62	0.89
				240	0.23	55.2	0.90	4,320	78	1.63	0.90
				120	0.46	55.2	0.90	4,320	78	1.63	0.90
	2	<b>EC5 T555 J UNV 2</b>	J	277	0.40	110.8	0.90	8,640	78	0.81	0.90
				240	0.46	110.4	0.90	8,640	78	0.82	0.90
				120	0.92	110.4	0.90	8,640	78	0.82	0.90

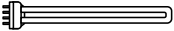
Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

<sup>††</sup>Ballast ships with leads.

Reduced Wattage T5 Twin-Tube 

**EcoSystem® (10% dimming) universal voltage digital dimming ballasts**

- Dimming to 10% for reduced wattage (energy saving) lamps
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Integral sensor connections

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
25W (22.5 in)	1	<b>EC5 T540 RW J UNV 1</b>	J	277	0.12	34.3	1.00	2,600	76	2.91	0.73
				240	0.14	34.5	1.00	2,600	75	2.89	0.72
				120	0.28	34.1	1.00	2,600	76	2.93	0.73
	2	<b>EC5 T540 RW J UNV 2</b>	J	277	0.21	59.3	1.00	5,200	88	1.68	0.84
				240	0.25	61.0	1.00	5,200	85	1.64	0.82
				120	0.49	59.3	1.00	5,200	88	1.68	0.84

Please consult lamp manufacturer’s specification to determine the dimmability of the reduced wattage lamp.

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T4 Compact 

**Hi-lume® (1% dimming) 120V and 277V dimming ballasts**

- Dimming to 1%
- Compatible with Lutron 3-wire fluorescent controls
- Energy saving

Lamp Watts	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
26W (Triple Tube)	1	<b>HL3-T426-277-1-S<sup>‡</sup></b>	A	277	0.12	33.2	0.95	1,710	51	2.86	0.74
		<b>HL3-T426-120-1-S<sup>‡</sup></b>		120	0.26	31.2	0.95	1,710	55	3.04	0.79
32W (Triple Tube)	1	<b>HL3-T432-277-1-S<sup>‡</sup></b>	A	277	0.13	36.0	0.95	2,280	63	2.64	0.84
		<b>HL3-T432-120-1-S<sup>‡</sup></b>		120	0.35	37.2	0.95	2,280	61	2.55	0.82

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

<sup>‡</sup>Mounting studs standard. Delete -S suffix in the model number if mounting studs are not needed.

T4 Compact (continued) 

**EcoSystem® (5% dimming) universal voltage digital dimming ballasts**

- Dimming to 5%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Energy saving

Lamp Watts	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
18W (Triple/ Quad Tube)	1	<b>EC3D T418 K U 1 S‡</b>	K	277	0.08	20.8	0.95	1,140	55	4.57	0.82
				240	0.09	21.4	0.95	1,140	53	4.44	0.80
				120	0.18	21.3	0.95	1,140	54	4.46	0.80
	2	<b>EC3D T418 K U 2 S‡</b>	K	277	0.15	39.9	0.95	2,280	57	2.38	0.86
				240	0.17	39.4	0.95	2,280	58	2.41	0.87
				120	0.34	41.1	0.95	2,280	56	2.31	0.83
26W (Triple/ Quad Tube)	1	<b>EC3D T4MW K U 1 S‡</b>	K	277	0.10	27.0	0.95	1,710	63	3.52	0.92
				240	0.11	26.9	0.95	1,710	64	3.54	0.92
				120	0.22	26.4	0.95	1,710	65	3.60	0.94
	2	<b>EC3D T4MW K U 2 S‡</b>	K	277	0.19	51.4	0.95	3,420	67	1.85	0.96
				240	0.21	50.6	0.95	3,420	68	1.88	0.98
				120	0.43	51.6	0.95	3,420	66	1.84	0.96
32W (Triple Tube)	1	<b>EC3D T4MW K U 1 S‡</b>	K	277	0.12	33.2	0.95	2,280	69	2.86	0.91
				240	0.14	33.6	0.95	2,280	68	2.83	0.90
				120	0.29	34.8	0.95	2,280	66	2.73	0.87
	2	<b>EC3D T4MW K U 2 S‡</b>	K	277	0.24	65.5	0.95	4,560	70	1.45	0.93
				240	0.26	63.0	0.95	4,560	72	1.51	0.96
				120	0.55	66.0	0.95	4,560	69	1.44	0.92
42W (Triple Tube)	1	<b>EC3D T442 K U 1 S‡</b>	K	277	0.15	42.6	0.95	3,040	71	2.23	0.94
				240	0.18	42.7	0.95	3,040	71	2.23	0.93
				120	0.36	43.2	0.95	3,040	70	2.20	0.92
	2	<b>EC3D T442 K U 2 S‡</b>	K	277	0.31	85.4	0.95	6,080	71	1.11	0.93
				240	0.35	85.1	0.95	6,080	72	1.12	0.94
				120	0.73	87.6	0.95	6,080	69	1.08	0.91

\*For case type information see pgs. 328-331.

\*\*Factory-tuned ballast factors available. To customize, visit [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

†Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

‡Mounting studs standard. Delete -S suffix in the model number if mounting studs are not needed.

T4 Compact (continued) 

**Tu-Wire® (5% dimming) 120V dimming ballasts**

- Dimming to 5%
- Designed for retrofit applications
- Compatible with Lutron Tu-Wire fluorescent controls
- Energy saving

Lamp Watts	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)	System Lumens (lm) <sup>†</sup>	System Efficacy (lm/W) <sup>†</sup>	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
18W (Triple/ Quad Tube)	2	<b>2W-T418-120-2-S<sup>‡</sup></b>	B	120	0.41	49.2	0.95	2,280	46	1.93	0.70
26W (Triple/ Quad Tube)	1	<b>2W-T426-120-1-S<sup>‡</sup></b>	A	120	0.27	32.4	0.95	1,710	53	2.93	0.76
	2	<b>2W-T426-120-2-S<sup>‡</sup></b>	B	120	0.53	63.6	0.95	3,420	54	1.49	0.78
32W (Triple Tube)	1	<b>2W-T432-120-1-S<sup>‡</sup></b>	A	120	0.33	39.6	0.95	2,280	58	2.40	0.77
	2	<b>2W-T432-120-2-S<sup>‡</sup></b>	B	120	0.58	69.6	0.95	4,560	66	1.36	0.87

Refer to the online ballast selection tool for additional information, [www.lutron.com/BallastTool](http://www.lutron.com/BallastTool)

\*For case type information see pgs. 328-331.

<sup>†</sup>Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

<sup>‡</sup>Mounting studs standard. Delete -S suffix in the model number if mounting studs are not needed.



The following ballast model numbers have certifications specific to certain countries. For details on these ballast models, visit [www.lutron.com](http://www.lutron.com)

## Europe (CE)

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EHD T514 M E 1 10

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EHD T514 M E 2 10

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EHD T521 M E 1 10

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EHD T521 M E 2 10

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EHD T524 M E 1 10

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EHD T524 M E 2 10

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EHD T528 M E 1 10

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EHD T528 M E 2 10

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EHD T539 M E 1 10

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EHD T539 M E 2 10

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EHD T554 M E 1 10

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EHD T554 M E 2 10

NOTE: For specification information, please reference page 50

## Brazil (INMETRO)

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EHD T832 M E 1 10-B

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EHD T832 M E 2 10-B

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EHD T514 M E 1 10-B

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EHD T514 M E 2 10-B

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EHD T521 M E 1 10-B

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EHD T521 M E 2 10-B

---

EHD T524 M E 1 10-B

---

EHD T524 M E 2 10-B

---

EHD T528 M E 1 10-B

---

EHD T528 M E 2 10-B

---

EHD T539 M E 1 10-B

---

EHD T539 M E 2 10-B

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EHD T554 M E 1 10-B

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EHD T554 M E 2 10-B

## China (CCC)

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EHD T514 M E 1 10-C

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EHD T514 M E 2 10-C

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EHD T528 M E 1 10-C

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EHD T528 M E 2 10-C

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EHD T554 M E 1 10-C

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EHD T554 M E 2 10-C

## Canada (CSA)

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EHD T832 C 347 110

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EHD T832 C 347 210

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EHD T832 C 347 117

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EHD T832 C 347 217

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EHD T528 C 347 110

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EHD T528 C 347 210

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EHD T554 C 347 110

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EHD T554 C 347 210

**Mexico (NOM)**

H3D T817 G U 1 10 N
H3D T817 G U 2 10 N
H3D T825 G U 1 10 N
H3D T825 G U 2 10 N
H3D T832 G U 1 10 N
H3D T832 G U 2 10 N
H3D T832 G U 3 10 N
H3D T817 C U 1 10 N
H3D T817 C U 2 10 N
H3D T825 C U 1 10 N
H3D T825 C U 2 10 N
H3D T832 C U 1 10 N
H3D T832 C U 2 10 N
H3D T832 C U 1 17 N
H3D T832 C U 2 17 N
H3D T514 C U 1 10 N
H3D T514 C U 2 10 N
H3D T521 C U 1 10 N
H3D T521 C U 2 10 N
H3D T524 C U 1 10 N
H3D T524 C U 2 10 N
H3D T528 C U 1 10 N
H3D T528 C U 2 10 N
H3D T536 G U 1 10 N
H3D T536 G U 2 10 N
H3D T539 C U 1 10 N
H3D T539 C U 2 10 N
H3D T540 G U 1 10 N
H3D T540 G U 2 10 N
H3D T540 G U 3 10 N
H3D T550 G U 1 10 N
H3D T550 G U 2 10 N
H3D T554 C U 1 10 N
H3D T554 C U 2 10 N

EC5 T514 J UNV 1 N
EC5 T514 J UNV 2 N
EC5 T521 J UNV 1 N
EC5 T521 J UNV 2 N
EC5 T524 J UNV 1 N
EC5 T524 J UNV 2 N
EC5 T528 J UNV 1 N
EC5 T528 J UNV 2 N
EC5 T535 J UNV 1 N
EC5 T536 J UNV 1 N
EC5 T536 J UNV 2 N
EC5 T539 J UNV 1 N
EC5 T539 J UNV 2 N
EC5 T540 J UNV 1 N
EC5 T540 J UNV 2 N
EC5 T550 J UNV 1 N
EC5 T550 J UNV 2 N
EC5 T554 J UNV 1 N
EC5 T554 J UNV 2 N
EC5 T555 J UNV 1 N
EC5 T555 J UNV 2 N
EC5 T817 J UNV 1 N
EC5 T817 J UNV 2 N
EC5 T825 J UNV 1 N
EC5 T825 J UNV 2 N
EC5 T832 J UNV 1 N
EC5 T832 J UNV 2 N
EC3D T418 K U 1 N
EC3D T418 K U 1 S N
EC3D T418 K U 2 N
EC3D T418 K U 2 S N
EC3D T4MW K U 1 N
EC3D T4MW K U 1 S N
EC3D T4MW K U 2 N
EC3D T4MW K U 2 S N

EC3D T442 K U 1 N
EC3D T442 K U 1 S N
EC3D T442 K U 2 N
EC3D T442 K U 2 S N
EHD T514 M U 1 10 N
EHD T514 M U 2 10 N
EHD T521 M U 1 10 N
EHD T521 M U 2 10 N
EHD T524 M U 1 10 N
EHD T524 M U 2 10 N
EHD T528 M U 1 10 N
EHD T528 M U 2 10 N
EHD T539 M U 1 10 N
EHD T539 M U 2 10 N
EHD T554 M U 1 10 N
EHD T554 M U 2 10 N
EHD T817 M U 1 10 N
EHD T817 M U 2 10 N
EHD T825 M U 1 10 N
EHD T825 M U 2 10 N
EHD T832 M U 1 10 N
EHD T832 M U 2 10 N
EHD T832 M U 1 17 N
EHD T832 M U 2 17 N

**Japan (PSE)**

H3 T432 K 100 1 J
H3 T832 G UNV 1 J
H3 T832 G UNV 2 J

**Argentina (S)**

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H3D T817 C 220 1 10

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H3D T817 C 220 2 10

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H3D T817 C 220 1 17

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H3D T817 C 220 2 17

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H3D T817 G 220 1 10

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H3D T817 G 220 2 10

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H3D T817 G 220 1 17

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H3D T817 G 220 2 17

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H3D T817 G 220 3 10

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H3D T817 G 220 3 17

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H3D T825 C 220 1 10

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H3D T825 C 220 2 10

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H3D T825 C 220 1 17

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H3D T825 C 220 2 17

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H3D T832 C 220 1 10

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H3D T832 C 220 2 10

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H3D T832 C 220 1 17

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H3D T832 C 220 2 17

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H3D T832 G 220 1 10

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H3D T832 G 220 2 10

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H3D T832 G 220 1 17

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H3D T832 G 220 2 17

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H3D T832 G 220 3 10

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H3D T832 G 220 3 17

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H3D T840 C 220 1 10

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H3D T840 C 220 2 10

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H3D T840 C 220 1 17

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H3D T840 C 220 2 17

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H3D T514 C 220 1 10

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H3D T514 C 220 2 10

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H3D T521 C 220 1 10

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H3D T521 C 220 2 10

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H3D T528 C 220 1 10

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H3D T528 C 220 2 10

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H3D T536 G 220 1 10

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H3D T536 G 220 2 10

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H3D T540 G 220 1 10

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H3D T540 G 220 2 10

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H3D T540 G 220 3 10

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H3D T550 G 220 1 10

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H3D T550 G 220 2 10

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HL3 T426 220 1 S

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HL3 T426 220 1

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HL3 T432 220 1 S

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HL3 T432 220 1

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EC3D T418 K 220 1

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EC3D T418 K 220 1 S

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EC3D T418 K 220 2

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EC3D T418 K 220 2 S

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EC3D T442 K 220 1

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EC3D T442 K 220 1 S

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EC3D T442 K 220 2

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EC3D T442 K 220 2 S

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EC3D T4MW K 220 1

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EC3D T4MW K 220 1 S

---

EC3D T4MW K 220 2

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EC3D T4MW K 220 2 S

---

EC5 T536 J 220 1

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EC5 T536 J 220 2

---

EC5 T540 J 220 1

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EC5 T540 J 220 2

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EC5 T540 G 220 3L

---

EC5 T550 J 220 1

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EC5 T550 J 220 2

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EC5 T555 J 220 1

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EC5 T555 J 220 2

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EC5 T524 J 220 1

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EC5 T524 J 220 2

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EC5 T539 J 220 1

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EC5 T539 J 220 2

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EC5 T554 J 220 1

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EC5 T554 J 220 2

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EC5 T514 J 220 1

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EC5 T514 J 220 2

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EC5 T521 J 220 1

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EC5 T521 J 220 2

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EC5 T528 J 220 1

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EC5 T528 J 220 2

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EC5 T535 J 220 1

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EC5 T817 J 220 1

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EC5 T817 J 220 2

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EC5 T825 J 220 1

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EC5 T825 J 220 2

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EC5 T832 G 220 2L

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EC5 T832 G 220 3L

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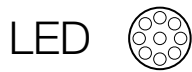
EC5 T832 G 220 3 17L

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EC5 T832 J 220 1

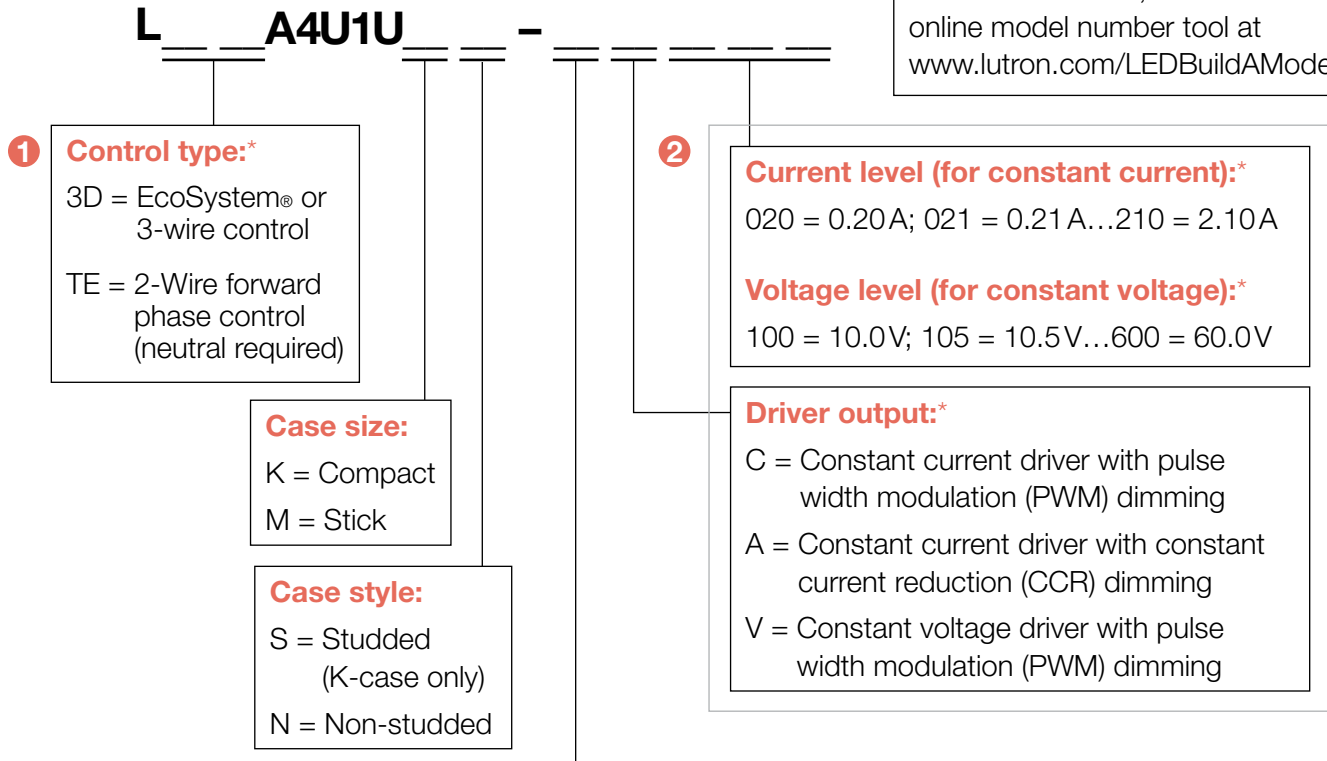
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EC5 T832 J 220 2



**Example: L3DA4U1UKS-HC070**  
 For assistance, contact our LED Center of Excellence at 1-877-346-5338 or LEDSD@lutron.com, or use the online model number tool at [www.lutron.com/LEDBuildAModel](http://www.lutron.com/LEDBuildAModel)

## How to build a Hi-lume® A-Series LED model number:



**LED load output range (contact fixture manufacturer for specifications)**

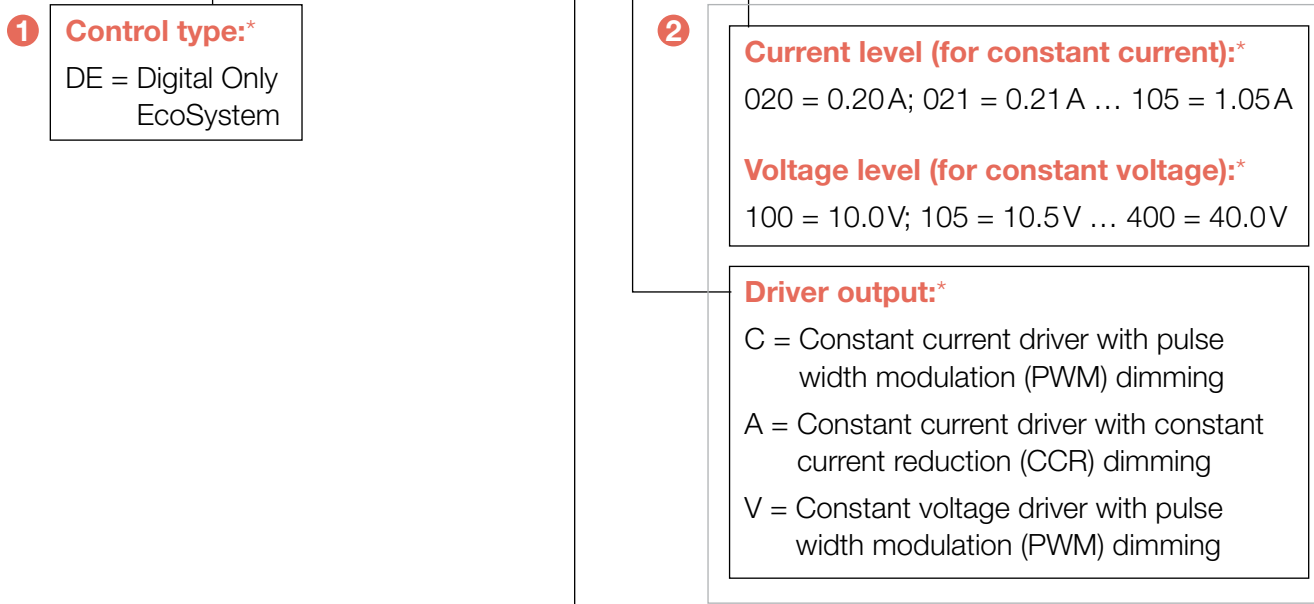
Class 2 constant voltage	Class 2 constant current	Isolated Non-class 2 constant current
A = 10.0V–12.0V 3.3 A maximum	E = 0.20A–0.50A 30V–54V	Y = 0.20A–0.50A 30V–60V
B = 12.5V–20.0V	F = 0.51A–1.00A 30V–54V	Z = 0.51A–1.00A 30V–60V
C = 20.5V–24.0V	G = 0.20A–0.70A 8V–20V	
D = 24.5V–38.0V	H = 0.20A–0.70A 15V–38V	
	I = 0.71A–1.05A 8V–20V	
	J = 0.71A–1.05A 15V–38V	
	K = 1.06A–1.50A 8V–20V	
<b>Isolated Non-class 2 constant voltage</b>	L = 1.06A–1.50A 15V–38V	
X = 38.5V–60.0V	M = 1.51A–2.10A 8V–20V (30W maximum)	

\*For details on control types, see pg. 373.



**How to build an EcoSystem® LED model number (CE models):**

**L DE A2E1C PA -**

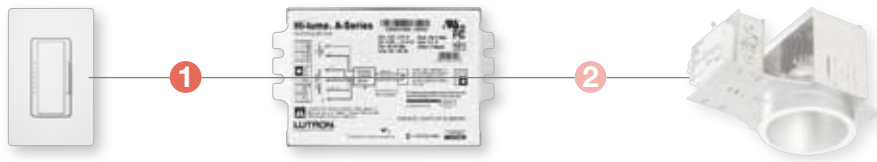


**LED load output range (see following pages for explanation and examples):**

Constant voltage	Constant current
A = 8.0V–12.0V	G = 0.20A–0.70A 8V–20V
B = 12.5V–20.0V	H = 0.20A–0.70A 15V–40V
C = 20.5V–24.0V	I = 0.71 A–1.05A 8V–20V
D = 24.5V–40.0V	J = 0.71 A–1.05A 15V–40V
1.05A and 25W maximum	40V and 25W maximum

\*For details on control types, see pg. 373.

## Details for building a Lutron® LED driver model number



### 1 Choosing a control type input

The following control technologies refer to the signal and wiring between the control on the wall and the LED driver. The compatibility of a dimmer with a particular LED fixture begins with making sure they both use the same control method. These control technologies are used in stand-alone applications and control systems as well as in wired and wireless lighting controls.

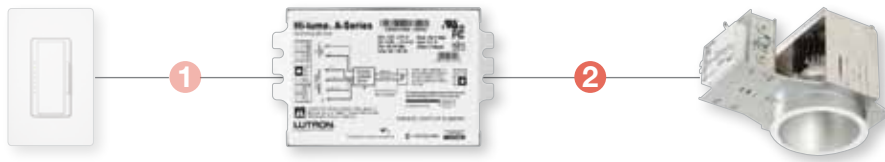
*Selection of a control is typically driven by the requirements of the project.*

Control type	Features	Ideal applications
2-Wire forward phase control	<ul style="list-style-type: none"> <li>Typically used for incandescent and MLV light sources</li> <li>Generally the only control used for LED retrofit lamps</li> <li>Most common method of dimming control</li> </ul>	<ul style="list-style-type: none"> <li>Retrofit projects</li> <li>Residential and commercial system applications</li> <li>Applications that have a neutral wire in the backbox</li> </ul>
EcoSystem digital link control	<ul style="list-style-type: none"> <li>Digitally addressable and allows LED drivers to communicate and react to environmental changes</li> <li>Allows for rezoning without rewiring, and all links are miswire protected</li> </ul>	<ul style="list-style-type: none"> <li>Projects requiring digital control for individual fixture addressability</li> <li>Upgrade from analog 0-10V control</li> <li>Multi-zone applications</li> <li>Small, retrofit applications using Lutron Energi TriPak®</li> </ul>
3-Wire control	<ul style="list-style-type: none"> <li>Requires a third line voltage control wire, resulting in more precise performance and less electrical noise</li> <li>Stable over long wire runs</li> <li>Easily wired</li> </ul>	<ul style="list-style-type: none"> <li>LED dimming applications requiring precise control</li> </ul>

For more information, please use the following resources:

- LED Driver Selection Tool ([www.lutron.com/LEDBuildAModel](http://www.lutron.com/LEDBuildAModel))
- Lutron LED Control Center of Excellence (1-877-DIM-LED8 or email [LEDs@lutron.com](mailto:LEDs@lutron.com))

## Details for building a Lutron® LED driver model number



### 2 Choosing an LED driver output

Lutron LED drivers offer models for both constant current and constant voltage applications. These two types of drivers are not interchangeable, and the design of the LED array, decided upon by the fixture manufacturer, determines which driver is appropriate.

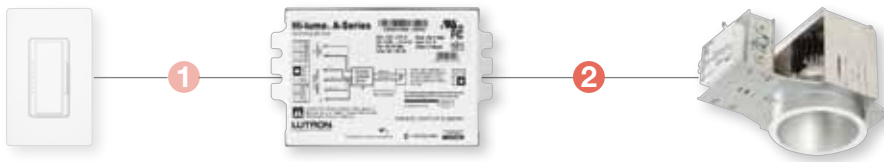
*The driver's output is determined by the design of the fixture's LED array, and must therefore be selected by the fixture manufacturer.*

	Typical applications	Details
Constant current	<ul style="list-style-type: none"> <li>Down light or sconce</li> </ul>	<ul style="list-style-type: none"> <li>One light source per driver (much like a fluorescent lamp with its associated ballast)</li> <li>For a pre-made LED array designed to operate at or below a set current level</li> </ul>
Constant voltage	<ul style="list-style-type: none"> <li>Cove, under-cabinet light or an area with a variable number of fixtures</li> </ul>	<ul style="list-style-type: none"> <li>For one or more LED arrays connected in parallel</li> <li>Similar to electronic or magnetic low-voltage power supplies that often have 12V and 24V outputs</li> </ul>

For more information, please use the following resources:

- LED Driver Selection Tool ([www.lutron.com/LEDBuildAModel](http://www.lutron.com/LEDBuildAModel))
- Lutron LED Control Center of Excellence (1.877.DIM.LED8 or email [LEDs@lutron.com](mailto:LEDs@lutron.com))

## Details for building a Lutron LED driver model number



### 2 Choosing an LED dimming method

For constant current LED drivers, there are two mechanisms for dimming: pulse width modulation (PWM) and constant current reduction (CCR). Constant voltage LED drivers always use PWM. In a PWM driver, the current is switched at a high frequency between zero and the rated output current. The ratio of on time to off time determines the perceived light level. In a CCR supply, the current flows continuously at a set amount to achieve a given light level.

*Certain applications may favor a particular dimming method for best results. In most cases, either approach is suitable.*

Driver output	Suitable applications
Pulse width modulation (PWM)	<ul style="list-style-type: none"> <li>• Fixtures that must be dimmed very low and still maintain consistent color</li> <li>• Color mixing applications that require precise levels for each color</li> <li>• Most commonly used driver output</li> </ul>
Constant current reduction (CCR)	<ul style="list-style-type: none"> <li>• Fixtures requiring a UL Class 2 rated output with an output voltage higher than the UL Class 2 PWM voltage level</li> <li>• Applications where long wire runs may exist between the driver and the light engines and high performance dimming is required</li> <li>• Applications that have strict EMI requirements, such as medical suites</li> <li>• Applications with high motion activity or rotating machinery</li> </ul>

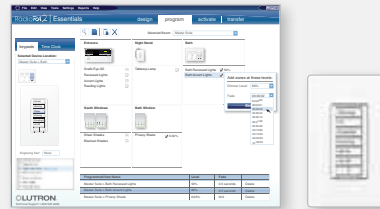
For more information, please use the following resources:

- LED Driver Selection Tool ([www.lutron.com/LEDBuildAModel](http://www.lutron.com/LEDBuildAModel))
- Lutron LED Control Center of Excellence (1.877.DIM.LED8 or email [LEDs@lutron.com](mailto:LEDs@lutron.com))
- Controlling LEDs whitepaper P/N 367-2035 REV B



# Software applications and system programming

Programming methods range from button-press (manual) programming at the wallstation, to software-based programming from a touch screen. Methods vary by system, consult the following pages for more information.



## Software and programming for RadioRA® 2

pg. 378



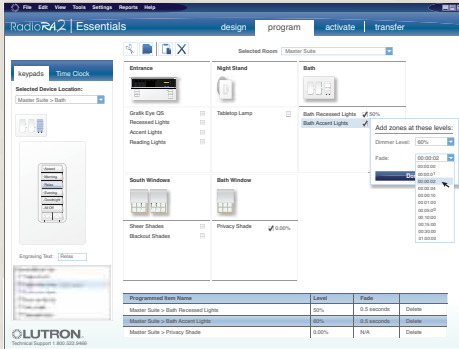
## Software and programming for GRAFIK Eye® QS families

pg. 380



**Software and programming for  
Energizer Savr Node™ families**  
pg. 381

RadioRA 2 offers the choice of PC-based or button-press programming. An intuitive PC setup tool saves time on larger projects while easy button-press programming simplifies smaller jobs.



RadioRA 2 graphical user interface for a PC



RadioRA 2 keypad for button-press programming

### Software-based programming features

- Offers access to advanced features like an astronomic time clock and integration with HVAC and A/V systems
- Design system by placing components in rooms
- Program keypad buttons by assigning lights and shades and defining levels
- Activate system devices
- Transfer system programming to main repeater

### Button-press programming features

- Offers an easy way to program system keypads to control lights and shades throughout the home
- No computer or other external equipment required
- Activate system components by adding them to the main repeater to create a system
- Configure keypad buttons to offer LED feedback for scene status or monitoring lights in the home
- Assign lights and shades to keypad buttons and choose preset levels. Control lights and shades individually or create scenes by controlling multiple lights and shades with a single button

## Differences between software and button-press programming

Features	Button-press programming	Software programming
Scene control	Yes	Yes
Room monitoring	Yes	Yes
Individual device control	Yes	Yes
0–100 devices	Yes	Yes
101–200 devices	Yes*	No
Astronomic time clock	No	Yes
Away mode	No	Yes
Security mode	No	Yes
Integration	No	Yes
iPhone® <sup>1</sup> , iPad® <sup>1</sup> , Android® <sup>2</sup> app	No	Yes
“Green” button	No	Yes
Occupancy/vacancy sensors	No	Yes
Homeowner adjustments	No	Yes
Thermostat	No	Yes

\*Requires Level 2 (L2) dealer qualification.

<sup>1</sup>iPhone and iPad are trademarks of Apple®, Inc., registered in the U.S. and other countries.

<sup>2</sup>Android™ is a trademark of Google®, Inc. Use of this trademark is subject to Google permissions.

GRAFIK Eye QS systems can be programmed at the main unit via button-press programming or through software applications for the PC.



GRAFIK Eye user interface for a PC

**Software-based programming features**

- For larger projects, PC programming software is available
- Provides a simple programming interface that can be downloaded to the GRAFIK Eye QS via the front-accessible USB port
- Favorite settings can also be saved to the PC for repeated use in multi-room installations



Manual programming at GRAFIK Eye QS main unit

**Button-press programming at the main unit**

- Easy, intuitive programming via the information screen is available for initial programming and future adjustments
- Use the information screen on the GRAFIK Eye QS to quickly and easily program load settings, scenes, timeclock events, 3 and more; adjust settings in the space without the need for other devices

Energi Savr Node systems can be programmed at the module via button-press programming or through software applications designed for iPhone®, iPod Touch®, and iPad® mobile devices<sup>1</sup>.



Energi Savr Node programming screen for Apple iPod touch, iPad or iPhone mobile digital devices<sup>1</sup>



Energi Savr Node with lid removed for button-press programming

**Software-based programming features**

- Fine-tuning enables easy changes to the system after the space is occupied
- Occupancy settings allow you to change how the lights behave when the space is occupied and unoccupied, and also adjust the amount of time it takes for the lights to turn off after the last person exits the area
- System setup allows easy, menu-driven system programming that can be performed from anywhere in the space
- Software programming provides seamless maintenance of existing systems, such as replacing digital ballasts without reprogramming the entire system
- Programming application automatically finds new ballasts in the system and prompts the user through a few simple steps to complete ballast replacement
- Requires Energi Savr Node programming interface to program Softswitch®, Switching 0-10V, systems and Phase Adaptive systems
- Handheld devices communicate with lighting system via WiFi router connected to lighting system
- Programming application available from iTunes® online store<sup>1</sup>
- Energi Savr Node with EcoSystem® and DALI must be programmed through software

**Button-press programming features**

- Programming performed directly from the Energi Savr Node with the lid removed
- Manual programming offers an easy way to setup an Energi Savr Node to be controlled by wireless or wired sensors and controls
- No computer or other external equipment required

**Related component**



Energi Savr Node programming interface, see pg. 65

[Download specification submittal: Energi Savr Node Wireless Set-up Kit](#)

[Download specification submittal: Hand Held Device by Others for Energi Savr Node Systems](#)

[Download specification submittal: Wireless Router by Others for Energi Savr Node Systems](#)

<sup>1</sup>iPhone, iPod touch, iPad, and iTunes are trademarks of Apple® Inc., registered in the U.S. and other countries.

## Differences between software and button-press programming

<b>Features</b>	<b>Software programming</b> <b>Softswitch®, Switching*,</b> <b>0–10V*, EcoSystem®, DALI</b> <b>and Phase Adaptive*</b>	<b>Button-press programming</b> <b>Softswitch, Switching,</b> <b>0–10V, and Phase Adaptive</b>
System limits	Multiple Energi Savr Nodes per QS link (up to 100 zones)	One Energi Savr Node per QS link One QSM per QS link
Sensors and wallstations control	Any zones on any Energi Savr Node on the QS link	Any zones on connected Energi Savr Node
Use GRAFIK Eye® timeclock to control Energi Savr Node units	Yes	No
Load shed functionality	Yes	No
Make a back-up file of the system	Yes (Energi Savr Node with EcoSystem only)	No
WiFi required	Yes	No
Lutron® start-up required	Yes	No
Enable/disable daylighting using different scenes	Yes	No

\*REQUIRES ENERGI SAVR NODE PROGRAMMING INTERFACE FOR SOFTWARE PROGRAMMING





## Shading systems

The Sivoia® QS family of wired and wireless shading systems utilize an ultra-quiet, precision controlled Electronic Drive Unit with Intelligent Hembar Alignment (IHA). Sivoia QS wired and wireless drive units are available for a variety of shade styles.

### Options include:

- Roller shades
- Tensioned shades/skylight shades
- Roman shades with CERUS® technology
- Drapery tracks
- Kirbé® vertical drapery systems
- Venetian blinds
- Insulating Honeycomb Shades









## Controllable roller shades

Roller shades are designed for ultra-quiet, precision control of daylight.

- Available models: roller 20™, roller 64™, roller 100™, roller 150™, roller 225™, roller 200CW, and roller 300™
- Provides maximum window coverage with the smallest possible light gaps, .75 in (19mm) between the shade fabric and the window frame
- Light gaps are symmetrical on both sides of shade
- Uniform, precision movement of multiple shades
- Convenient one-touch control from elegant keypads and intuitive handheld remotes
- Wired and/or wireless controls
- Manual shades also available
- Ability to group multiple shades together on a drive with angled and in-line couplers
- Available with all Lutron roller shade fabrics. Commercial options are also available



## Tensioned shades

The tensioned shade combines Lutron® technology with a new patent-pending tension system. Fabric is kept taut and parallel to window or skylight regardless of slope.

- Available models: roller 100, 150, and 300
- Unique tension-absorbing frame eliminates stress on the surrounding ceiling structure
- Angle of installation between -135° and 135° for bottom up, angles, and skylight installations
- Meet-in-the-middle module uses two tension shades in one frame to cover openings up to 24 ft
- Inside, recessed, and outside surface mounting options
- Light blocking fascia eliminates gaps around fabric when closed
- Pre-assembled shipping available to make installation more convenient
- Available with all Lutron roller shade fabrics. Commercial options are also available



### **Kirbé® vertical drapery system\***

An entirely new type of window treatment that smoothly pulls the drapery up and out of the way, eliminating stackback.

- Available model: roller 100™
- Exclusive to Lutron® – an industry first
- Custom sized cornices are available in multiple shapes and fabric options
- Offered in several sheer colors and styles
- Pair with a blackout roller shade for room-darkening capability



### **Drapery systems and finished draperies\***

Provide privacy with elegant draperies of any fabric and color.

- Available models: D105, D145, and D175
- Available in pinch pleat and ripple fold styles
- Operates up to 175 lb (79.4 kg) draperies
- Left, right, and center-draw drapery
- Single or dual drapery tracks available
- Straight and custom-curved tracks
- Custom sized cornices are available in multiple shapes and fabric options
- Can be used with a Lutron finished drapery or other standard draperies

\*Shown without cornice

For further information on Lutron shading systems please see **Lutron Shading Solutions Product Guide** P/N 367-1455, visit our website, [www.lutron.com/shadingsolutions](http://www.lutron.com/shadingsolutions), or contact shades customer service at 1.800.446.1503.





## Roman shades with CERUS® safety technology

The Cord Eliminating Roman Uptake System (CERUS) eliminates lifting cords associated with normal Roman shade construction and creates safer shades with silent and smoother operation.

- Available models: roller 64™, roller 100™, and roller 150™
- Offered in four unique pleat styles for soft fabrics and flat style for woven woods
- Available with Lutron Roman shades in soft fabrics and woven woods. Commercial options are also available



## Venetian blinds

Venetian blinds maintain uniform tilt and lift positions across blinds and combines smooth, quiet motion with independent control of lift and tilt.

- Blinds feature Intelligent Hembar Alignment™, a hallmark of all Lutron® shading systems, which maintains hembar position within .125 in (3 mm) at all times
- System provides the ability to store and recall presets
- Full range of tilt can be adjusted in either direction down to a fixed tilt angle
- With more than 50 wood colors, 14 aluminum choices, 23 optional decorative tapes and four valance styles, your intelligent blind can be tailored to complement any décor



## Sivoia® QS Wireless insulating honeycomb shades

Battery-powered, wire-free, remote-controlled shades set a new standard of affordability and provide excellent insulation for your windows, saving energy.

- Adjust shades with a wire-free handheld or wall-mounted remote control from anywhere in the room
- Set multiple shades in motion with a single button press
- Lutron Triathlon® power technology utilizes a hybrid drive design and ultra-efficient standby power, which extends the battery life to three years\*
- Offered in a variety of fabrics, colors, styles and textures, all with cord-free operation
- Air pockets trap heat to provide superior insulation for enhanced energy efficiency

\* 3-year battery life based on 2 complete up and 2 complete down movements per day assuming a 3ft wide by 5ft tall shade using light-filtering fabric. Battery life can vary between two to five years depending on shade size and fabric selection.

Product type	Fabric collection	Fabric options	Additional options	
<b>Roller shades</b>	Classico™ collection	Sheer	Bottom bar style	No
		Dim-out	Bottom bar style	No
		Blackout	Bottom bar style	Sill angle Side channel
	Gallery™ collection	Sheer	Bottom bar style (ABB style required)	No
	COM (see below)	Dim-out	Bottom bar style (ABB style required)	No
<b>Tensioned shades</b>	Classico collection	Sheer	Frame color	No
		Dim-out	Frame color	No
		Blackout	Frame color	No
<b>Drapery track</b>	Avant™ collection	Soft fabrics	Pinch pleats	Liner options
	COM (see below)		Ripplefold	Liner options
<b>Kirbé® vertical drapery system</b>	Avant collection	Sheer fabrics and privacy	Optional roller 64™ blackout shade	Cornice styles
<b>Roman shades with CERUS® safety technology</b>	Avant collection	Soft fabrics	Hobbled style	Liner options
			Knife style	Liner options
			Flat style	Liner options
			Casual style	Liner options
	COM (see below)	Woven woods	Flat style	Liner options Edge binding
<b>Cornice</b>	Avant collection	Soft fabrics	Shape	No
<b>Venetian blinds</b>	Venetian collection	Wood slats	Valance style (optional)	Decorative tape
		Aluminum slats		No
<b>Insulating honeycomb shades</b>	Insulating honeycomb collection	Light filtering	Headrail materials variability	No
		Room darkening		
		Sheer		

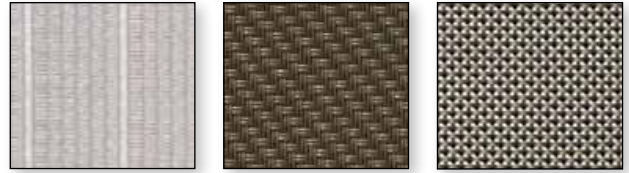
Customer's Own Material (COM) is an option when designing roller shades, Romans shades with CERUS technology, finished drapery panels and cornices. Please contact shades customer service for more information at 1.800.446.1503.

# Shading systems | **Fabrics**

Choosing the right fabric is critical to a successful shading project. Select from sheer, dim-out, or blackout fabrics to find a solution that's right for your project.

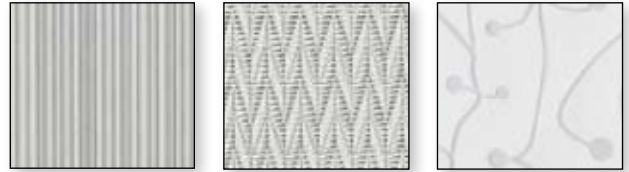
## **The Classico™ Collection**

For larger roller shade applications, durable and long-lasting fabrics are a necessity. The Classico Collection by Lutron® includes wide roll widths, fire-rated materials, and an array of sustainable options.



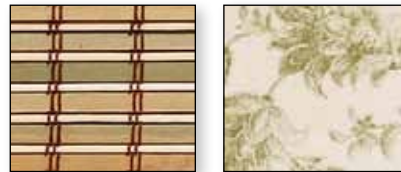
## **The Gallery Collection**

The Gallery Collection by Lutron offers a variety of colors, textures, and patterns to accent any residential décor. Add beauty to traditional roller shades with interesting patterns, intricate weaves, sophisticated suedes, or colorful linens.



## **The Avant™ Collection**

Featuring woven woods, sheers, and soft fabrics, the Avant Collection offers over 100 contemporary and traditional materials for Kirbé® vertical drapery systems, cornices, finished drapery systems, and Roman shades with CERUS® safety technology.



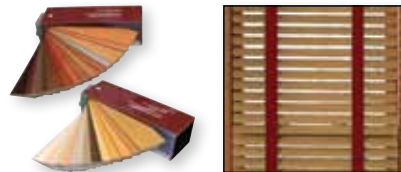
## **Insulating Honeycomb Fabric Collection**

Insulating honeycomb shades come in a variety of colors and textures to complement any style. Available in single-cell and double-cell options and with light-filtering, room darkening, and sheer fabrics.



## **Lutron Venetian Blinds**

Options include an extensive line of genuine hardwoods, available in designer paints or rich wood stains, painted or brushed aluminum choices, decorative tapes, and four valance styles. All slats come with finished ends for the finest quality.



## **Sustainability**

Often fabrics are manufactured with chemicals to make them durable. Lutron sustainable fabrics reduce or remove many of these chemicals in order to improve indoor air quality. Others are made from recycled content in order to protect the environment. GreenScreen® Revive fabric is comprised of 89% REPREVE® polyester (pre- and post-consumer waste) recycled content, which is sourced primarily from plastic water bottles. Visit [www.lutron.com/greenscreen](http://www.lutron.com/greenscreen) to find out more about Lutron's green fabric offering.

Power supplies



QS link power supply

**QS link individual power supply**

**Features**

- Works with Sivoia® QS wired and wireless shades
- 24 V DC supply that provides power to shades, drapery drive units, keypads, and accessories
- Simple wiring scheme uses 4-conductor, low-voltage link to provide power and communication for QS electronic drive units (EDUs), see Touch® QS keypads and QS integration interfaces
- Mounting tabs and small size allow for discrete installation
- Universal input voltage (100–240V AC) enables global specification



Sivoia QS wireless 120V power supply panel with lid removed

**Sivoia QS Wireless 120V power supply panel (10 output)**

**Features**

- Works with Sivoia QS Wireless shades
- 24V DC supply that provides power to shades and drapery drive units
- 10 output panel provides power for 10 to 30 shades based on shade dimensions
- Up to two power panels on a 120V x 20A feed. Also available in other voltages



## Power supplies



Sivoia QS wired power supply panel with cover removed



QS J-box Power Supply

### Sivoia® QS wired power supply panel (10 output)

#### Features

- Works with Sivoia QS wired shades
- 24V DC supply that provides power to shades, drapery drive units, keypads, and accessories
- Simple wiring scheme uses 4-conductor low-voltage link to provide power and communication for both QS electronic drive units (EDUs) and seeTouch® QS keypads
- Flexible wiring topology for easy installation and integration
- 10 output panel provides power for 10 to 30 shades based on shade dimensions
- Smart diagnostics reduce installation time and system verification
- Confirms system communication and facilitates system installation
- Provides easy system testing with manual override buttons for shades
- Up to two power panels on a 120V x 20A feed. Also available in other voltages

### QS J-box Power Supply

#### Features

- Works with Sivoia QS wired and wireless shades
- 24V supply that provides power to shades, keypads (wired only), and accessories (wired only)
- Simple wiring scheme uses 4-conductor, low-voltage link to provide power and communication for both QS electronic drive units (EDUs) and seeTouch QS keypads
- Flexible wiring topology for easy installation and integration
- Form factor allows the power supply to be hidden in utility spaces
- The J-Box power supply is mounted on a four inch square junction box
- The power supply is protected electronically in the event of a miswire, and will automatically reset when wiring is correct

## Power supplies



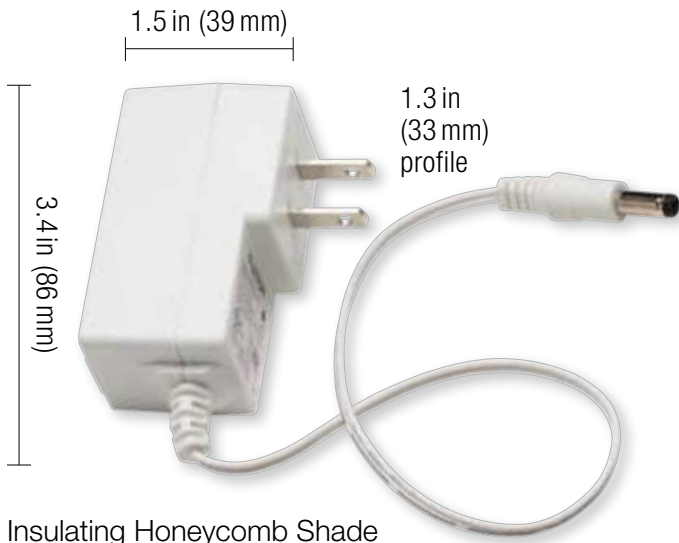
### **Energi Savr Node™ with EcoSystem® for shades**

#### **Features**

- 24V $\overline{\text{=}}$  supply that provides power to QS shades, drapery drive units, keypads, and accessories
- Controls up to 128 EcoSystem Ballasts
- Simple wiring scheme uses 4-conductor low voltage link to provide power and communication for QS devices
- Flexible wiring topology for easy installation and integration
- 10 output panel provides power for 10 to 30 shades based on shade dimensions
- Smart diagnostics reduce installation time and system verification
- Confirms system communication and facilitates system installation
- Provides easy system testing with manual override buttons for shades and lighting

EcoSystem with shades Energi Savr Node™ with cover removed

## Power supplies



Insulating Honeycomb Shade plug-in supply

### Insulating Honeycomb Shade plug-in supply

#### Features

- Electronic over current and over temperature protection
- Class 2 12V DC power supply for Insulating Honeycomb Shades
- Simple installation - supply output plug can be connected directly to a Insulating Honeycomb Shade
- Unobtrusive—same form factor as a typical cell phone charger
- Energy efficient - International Efficiency Level V



Insulating Honeycomb Shade panel power supply

### Insulating Honeycomb Shade power panel power supply

#### Features

- Universal input voltage 120-240V~ 50/60 Hz
- Electronic over current and over temperature protection
- Class 2 12V DC supply that can power up to 10 Insulating Honeycomb Shades
- Simple wiring scheme uses 2-conductor low voltage link to provide power
- Energy efficient - International Efficiency Level V, Energy Star 2.0 & CeC compliant

## Compatible controls via other Lutron systems

### Wired controls



**seeTouch® QS  
keypads**



**GRAFIK Eye® QS main units**

### Wireless controls



**Sivoia® QS  
wireless keypads**



**Sivoia QS wireless  
tabletop keypads**



**Pico® wireless  
controls**



**IR remote  
controls**

For further information on Lutron shading systems please see **Lutron Shading Solutions Product Guide** P/N: 367-1455, visit our website, [www.lutron.com/shadingsolutions](http://www.lutron.com/shadingsolutions), or contact shades customer service at 1.800.446.1503



## Mobile devices

If you have a residential Lutron system, you can control your shades from your mobile device with a Lutron® app—as well as lights, temperature, and small appliances—even when you're away from home.



## Timeclocks (Time of day control)

A timeclock works in conjunction with a home or commercial building control system to automatically raise or lower your shades based on programmed times. For example, shades can be set to lower automatically every day at noon to block harsh sunlight and protect interiors and furnishings.



## Third-party integration

Shade control (as well as lights) can be integrated with other manufacturer's systems, such as security, for another level of control. If the security system is triggered, shades can open and interior and/or exterior lights can flash.





# Wallplates and accessories

Wallplates come in a variety of colors, opening styles and grouping configurations. Combine these with accessories such as receptacles, cables, enclosures and other devices to finalize your project.

## Wallplates and accessories include:

- Single and multi-gang wallplates
- Custom control options
- Engraving options
- Cable and wiring



### **Architectural wallplates and accessories**

pg. 400



### **Designer | Claro®/Satin Colors® wallplates and accessories**

pg. 408



### **International accessories**

pg. 415



### **International square wallplate for Pico®**

pg. 421



**QS power supplies**  
pg. 423



**Enclosure for control interfaces**  
pg. 427



**Engraving**  
pg. 436



**ELV transformer**  
pg. 424



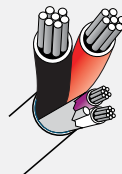
**Mounting rack for control interfaces**  
pg. 428



**Custom control options**  
pg. 438



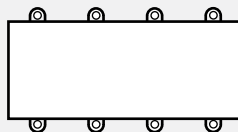
**Lamp wiring socket tester**  
pg. 425



**Cable/wiring**  
pg. 429



**Lockable cover**  
pg. 426



**Mounting**  
pg. 432





Shown actual size: 2-gang Architectural matte wallplate in White (WWP-2R-WH)

## Product family features

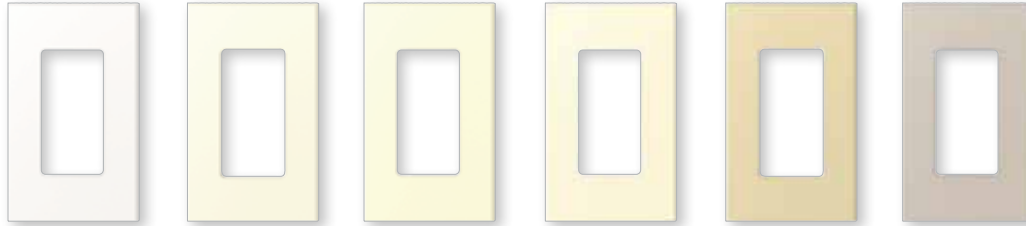
- Product comes with crisp beveled edge
- Architectural wallplates can be used with insert style seeTouch® QS keypads, QS keyswitches and accessories
- All Lutron wallplates are screwless, seamless, and have no visible hardware; the front plate securely snaps into the alignment adapter plate
- Customize your Architectural wallplate with engraving or by adding a corporate logo, contact customer service to get started at 1.888.LUTRON1
- Matte finish wallplates can be custom colored to perfectly match a paint color number, swatch, or sample

[Download high resolution product image](#)

## Color options

Use **BOLD** color code in model number (Example: VWP-R-**SI**)

### Architectural matte finishes



**WH**  
White

**LA**  
Light Almond

**AL**  
Almond

**BE**  
Beige

**IV**  
Ivory

**TP**  
Taupe



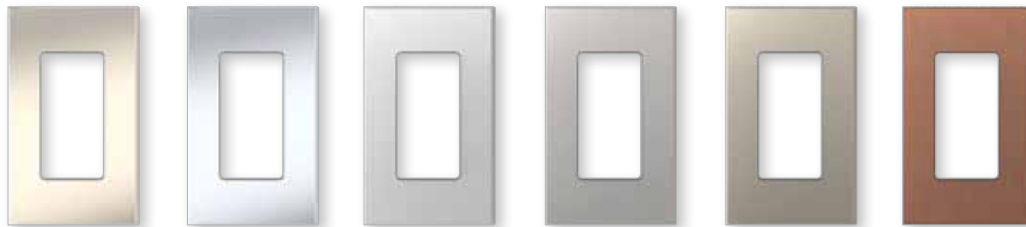
**GR**  
Gray

**SI**  
Sienna

**BR**  
Brown

**BL**  
Black

### Architectural metal finishes\*



**BN**  
Bright Nickel

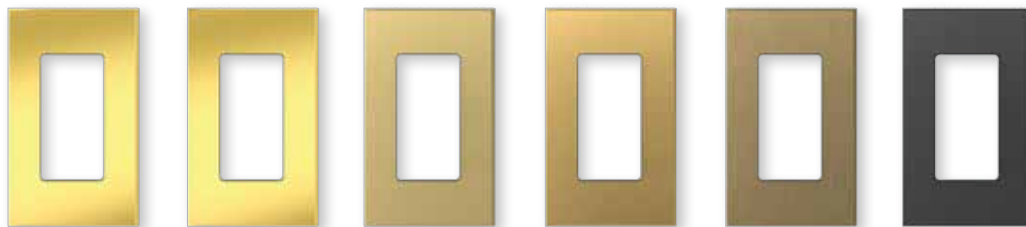
**BC**  
Bright Chrome

**CLA**  
Clear Anodized  
Aluminum

**SC**  
Satin Chrome

**SN**  
Satin Nickel

**QZ**  
Antique Bronze



**AU**  
Gold Plated

**BB**  
Bright Brass

**BRA**  
Brass Anodized  
Aluminum

**SB**  
Satin Brass

**QB**  
Antique Brass

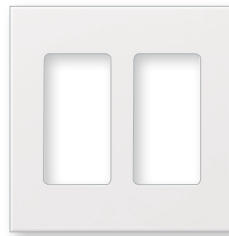
**BLA**  
Black Anodized  
Aluminum

\*Metal finish wallplates include black plastic trim/adaptor, visible from side. Match with separate Black (BL) or Midnight (MN) controls.

**Wallplate options**



1-gang\* VWP-R-**XX**<sup>1</sup>  
 W: 2.75 in (70 mm); H: 4.56 in (116 mm)  
 Profile: 0.30 in (8 mm)



2-gang\* VWP-2R-**XX**<sup>1</sup>  
 W: 4.56 in (116 mm); H: 4.56 in (116 mm)  
 Profile: 0.30 in (8 mm)

Multiple devices with line and low-voltage can be mounted behind a common wallplate using a standard barrier backbox. See application note #213 (combining low-voltage and line-voltage wiring devices in a multi-gang box) at [www.lutron.com/applicationnotes](http://www.lutron.com/applicationnotes).

**XX**<sup>1</sup>: Architectural matte color codes, see pg. 401  
 For metal finishes, contact Customer Service at 1.888.LUTRON1.

Multi-gang dimmer installations may require derating, see pg. 432.

\*Metal finish wallplates include black plastic trim/adaptor, visible from side. Match with separate Black (BL) controls.

## Custom Architectural wallplates

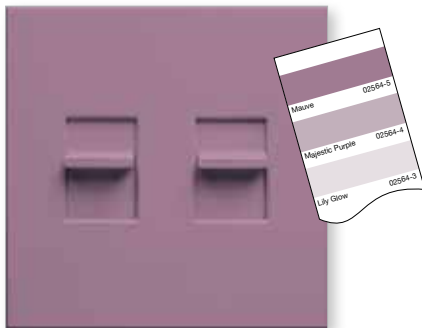
Custom configurations, colors, engraving and silkscreenings available. Contact customer service 1.888.LUTRON1.

Custom multi-gang wallplates required for the following cases:

- Multi-gang metal finishes
- Full-capacity ganging ("No Fins Broken")
- Large Nova T☆ controls (1500/2000 W)
- Nova controls

For further information, go to

[www.lutron.com/customganging](http://www.lutron.com/customganging)



Custom coloring available for all Architectural matte finish wallplates. Contact Customer Service at 1.888.LUTRON1.



Custom engraving available for all Traditional, Designer, Architectural and New Architectural style wallplates (except Stainless Steel).

For wallplate engraving schedules, go to

[www.lutron.com/engraving](http://www.lutron.com/engraving)

## Cable jack



- F-style, 75-Ohm coaxial cable
- Includes 1-gang wallplate

Single cable jack\*

NT-CJ-**XX**<sup>1</sup>

## Telephone jack



- 6-conductor jack, RJ11
- Includes 1-gang wallplate

Single telephone jack\*

NT-PJ-**XX**<sup>1</sup>

Multiple devices with line and low-voltage can be mounted behind a common wallplate using a standard barrier backbox, see Application Note #213 (Combining Low-Voltage and Line-Voltage Wiring Devices in a Multi-Gang Box) at [www.lutron.com/applicationnotes](http://www.lutron.com/applicationnotes)

**XX**<sup>1</sup>: Architectural matte color codes, see pg. 401 (1-gang wallplate included)

\*Metal finishes are only available as separate wallplates. Match with separate Black (BL) controls and accessories.

## Receptacles



- Includes 1-gang wallplate
- Tamper resistant receptacles include tamper resistant shutter mechanism (shutters are white)

### Tamper resistant receptacles\*

15A	125V	NTR-15-TR- <b>XX</b> <sup>1</sup>
20A	125V	NTR-20-TR- <b>XX</b> <sup>1</sup>

### Receptacles

15A	125V	NTR-15- <b>XX</b> <sup>1</sup>
20A	125V	NTR-20- <b>XX</b> <sup>1</sup>

## Isolated ground receptacles



- Receptacle is orange for easy ID and circuit delineation
- Model number color code is for wallplate only
- Includes 1-gang wallplate

### Isolated ground receptacles\*

15A	125V	NTR-15-IG-OR- <b>XX</b> <sup>1</sup>
20A	125V	NTR-20-IG-OR- <b>XX</b> <sup>1</sup>

## GFCI/GFTR receptacles



- Press test button to confirm LED indicator status
- Press reset button to reset GFCI after circuit interruption
- Includes 1-gang wallplate
- Tamper resistant shutter mechanism (shutters are white)

### Tamper resistant GFCI receptacles\*

15A	125V	GFCI	NTR-15-GFTR- <b>XX</b> <sup>1</sup>
20A	125V	GFCI	NTR-20-GFTR- <b>XX</b> <sup>1</sup>

**XX**<sup>1</sup>: Architectural matte color codes, see pg. 401 (1-gang wallplate included)

\*Metal finishes are only available as separate wallplates. Match with separate Black (BL) controls and accessories.

## Receptacles for dual dimming use



- Duplex for dimming both connected loads
- Projecting nubs prevent standard plugs from being used
- Requires replacement plugs for dimming use, see next page
- Includes 1-gang wallplate
- Tamper resistant shutter mechanism (shutters are white)

### Dual dimming, tamper resistant

15 A	120/125V*	NTR-15-DDTR- <b>XX</b> <sup>1</sup>
20 A	120/125V*	NTR-20-DDTR- <b>XX</b> <sup>1</sup>

## Receptacles for half dimming use



- Top half for dimming
- Projecting nub prevents standard plug from being used
- Requires replacement plugs for dimming use
- Bottom half is a general use receptacle and will fit standard duplex plugs
- Includes 1-gang wallplate
- Tamper resistant shutter mechanism (shutters are white)

### Half dimming, tamper resistant

15 A	120/125V*	NTR-15-HDTR- <b>XX</b> <sup>1</sup>
20 A	120/125V*	NTR-20-HDTR- <b>XX</b> <sup>1</sup>

## Replacement plugs for dimming (use with receptacles for dimming use)



- This plug required for use with Lutron receptacles for dimming use—plug will work in standard receptacle
- Easily replaces the existing plugs on lamps

120/125V White	RP-FDU-10-WH
120/125V Brown	RP-FDU-10-BR

UL/CSA/NOM regulatory approvals

### Important application notes:

- Receptacles and plugs for dimming use are UL listed for use with Lutron controls included in this catalog
- If there is only one electrical feed to the receptacle, then the duplex DDTR must be used
- If the hot and dimmed hot feeds to the split duplex HDTR are supplied from different circuits or split-wired, with separate switch-legs, a means to simultaneously disconnect these circuits must be provided at the panel board where they originate (NEC 210.7(C) 2002 Edition). A 2-pole circuit breaker or two single-pole circuit breakers with an approved handle tie can be used to accomplish this simultaneous disconnect. Feed-through dimming panels, which are those without breakers, are recommended when using the HDTR.
- For detailed information, see Application Notes #91 (Guide to Dimming Table Lamps) and #109 (Guide to Dimming Portable Lamps via Receptacles) at [www.lutron.com/applicationnotes](http://www.lutron.com/applicationnotes)

**XX**<sup>1</sup>: Architectural matte color codes, see pg. 401 (1-gang wallplate included)

\*Metal finishes are only available as separate wallplates. Match with separate Black (BL) controls and accessories.

## Field customizable 6-port frame



- Shipped with six blanks in matching colors
- Connectors sold separately
- Connectors snap in (no tools required)
- Includes 1-gang wallplate

6-port frame\*

NT-6PF-**XX**<sup>1</sup>

## Connectors for 6-port frame

### Telephone/network jacks



8-conductor, RJ45 category 3      CON-1P-C3-**XX**<sup>2</sup>

8-conductor, RJ45 category 5e      CON-1P-C5E-**XX**<sup>2</sup>

8-conductor, RJ45 category 6      CON-1P-C6-**XX**<sup>2</sup>

### Fiber jacks



MT-RJ feed through      CON-1F-MTRJ-WH



SC simplex      CON-1F-SC-WH



LC non-flush mount      CON-1F-LC-WH



ST style      CON-1F-ST-WH

### Cable jack



F-style, 75-Ohm coaxial cable      CON-1C-**XX**<sup>2</sup>

### BNC jack



BNC connector, 50-Ohm      CON-1B-WH

Connectors only for use with 6-port frame.

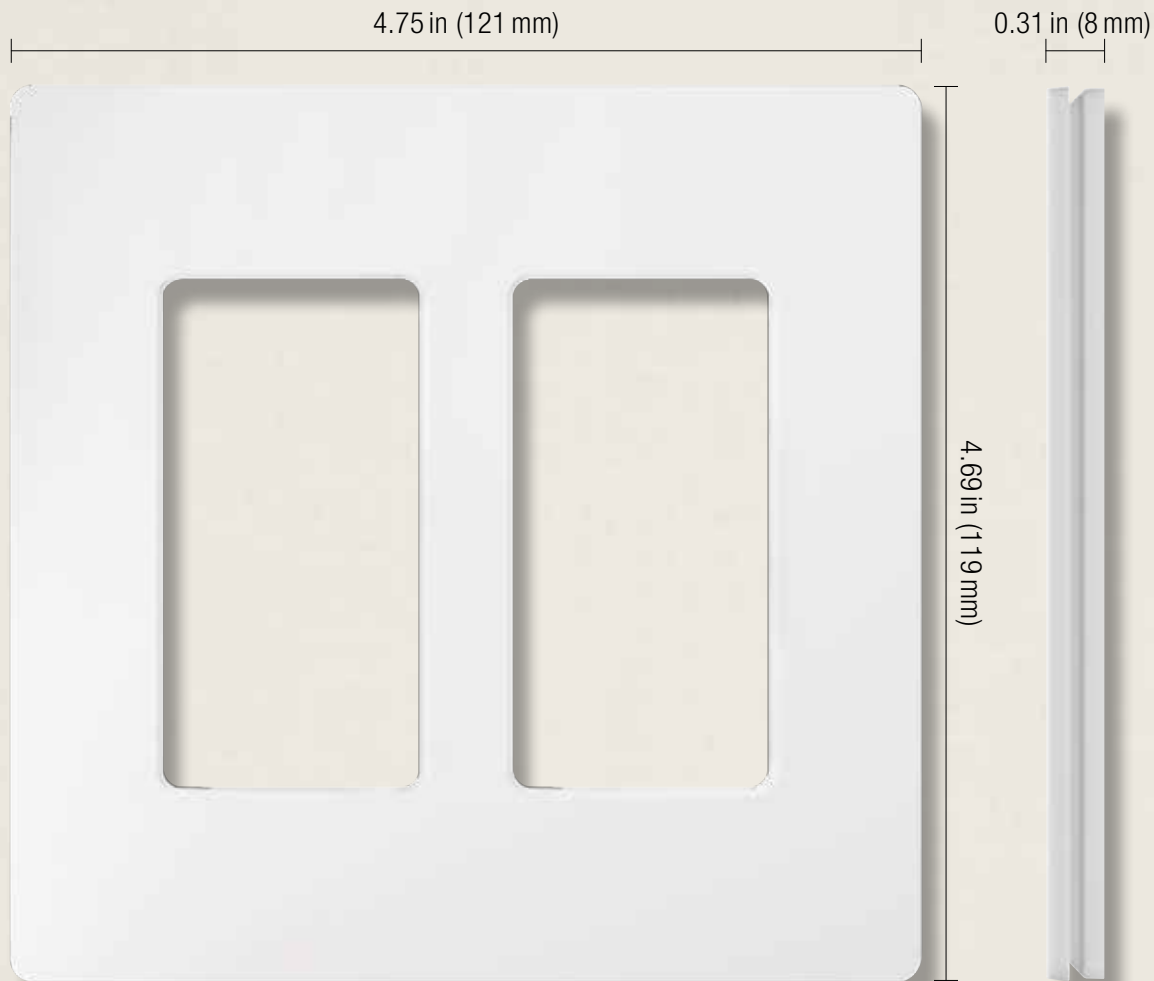
Multiple devices with line and low-voltage can be mounted behind a common wallplate using a standard barrier backbox, see Application Note #213 (Combining Low-Voltage and Line Voltage Wiring Devices in a Multi-Gang Box) at [www.lutron.com/applicationnotes](http://www.lutron.com/applicationnotes).

**XX**<sup>1</sup>: Architectural matte color codes, see pg. 401

**XX**<sup>2</sup>: Only available in White (WH) and Black (BL)

\*Metal finishes are only available as separate wallplates. Match with separate Black (BL) controls and accessories.





Shown actual size: 2-gang Claro® wallplate in gloss White (CW-2-WH)

### Product family features

- Product comes with rounded edges to match designer-style controls
- Designer wallplates can be used with Maestro Wireless Dimmers/switches, RadioRA® 2 dimmer/switches/keypads, seeTemp wall controls, Pico® wireless controls, Pico wired controls, EcoSystem® wallstations, insert style seeTouch® QS keypads and accessories.
- All Lutron wallplates are screwless, seamless and have no visible hardware; the front plate securely snaps into the alignment adapter plate
- Full line of wiring devices in designer-style opening
- Blank inserts available for gloss colors (DV-BI-) and Satin Colors® (SC-BI-)
- Customize your designer wallplate with engraving; contact customer service to get started at 1.888.LUTRON1

[Download high resolution product image](#)

## Color options

Use **BOLD** color code in model number (Example: SC-1-**PL**)

### Gloss finishes



**WH**  
White



**LA**  
Light Almond



**AL**  
Almond



**IV**  
Ivory



**GR**  
Gray



**BR**  
Brown



**BL**  
Black

### Satin finishes



**SW**  
Snow



**LS**  
Limestone



**BI**  
Biscuit



**ES**  
Eggshell



**PD**  
Palladium



**TP**  
Taupe



**ST**  
Stone



**BG**  
Bluestone



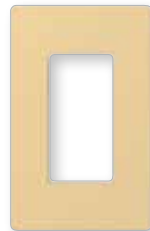
**PL**  
Plum



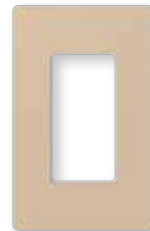
**SG**  
Sea Glass



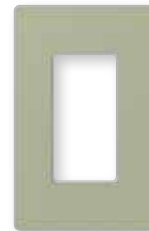
**TQ**  
Turquoise



**GS**  
Goldstone



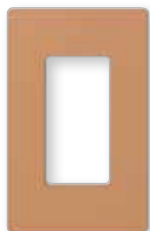
**DS**  
Desert Stone



**GB**  
Greenbriar



**MS**  
Mocha Stone



**TC**  
Terracotta



**SI**  
Sienna



**HT**  
Hot



**MR**  
Merlot



**MN**  
Midnight



**SS**  
Stainless Steel

\*Stainless Steel finish only available as separate wallplate. Match with separate Black (BL) or Midnight (MN) controls and accessories.

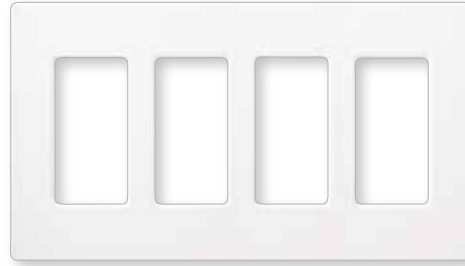
**Designer wallplates**



1-gang\*

CW-1-**XX**<sup>1</sup>  
SC-1-**XX**<sup>2</sup>

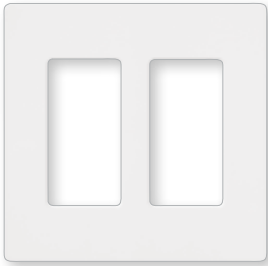
W: 2.94 in (75 mm); H: 4.69 in (119 mm)  
Profile: 0.31 in (8 mm)



4-gang\*

CW-4-**XX**<sup>1</sup>  
SC-4-**XX**<sup>2</sup>

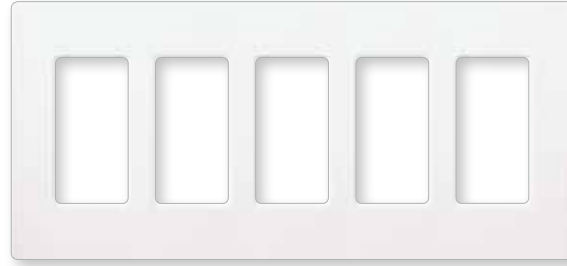
W: 8.37 in (213 mm); H: 4.69 in (119 mm)  
Profile: 0.31 in (8 mm)



2-gang\*

CW-2-**XX**<sup>1</sup>  
SC-2-**XX**<sup>2</sup>

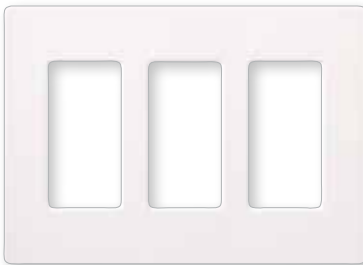
W: 4.75 in (121 mm); H: 4.69 in (119 mm)  
Profile: 0.31 in (8 mm)



5-gang\*

CW-5-**XX**<sup>1</sup>  
SC-5-**XX**<sup>2</sup>

W: 10.18 in (259 mm); H: 4.69 in (119 mm)  
Profile: 0.31 in (8 mm)



3-gang\*

CW-3-**XX**<sup>1</sup>  
SC-3-**XX**<sup>2</sup>

W: 6.56 in (167 mm); H: 4.69 in (119 mm)  
Profile: 0.31 in (8 mm)

Multiple devices with line and low-voltage can be mounted behind a common wallplate using a standard barrier backbox, see Application Note #213 (Combining Low-Voltage and Line-Voltage Wiring Devices in a Multi-Gang Box) at [www.lutron.com/applicationnotes](http://www.lutron.com/applicationnotes)

**XX**<sup>1</sup>: Gloss and Stainless Steel color codes, see pg. 409

**XX**<sup>2</sup>: Satin color codes, see pg. 409

Multi-gang dimmer installations may require derating, see pg. 433.

\*Stainless Steel finish wallplates include black plastic trim/adaptor, visible from side. Match with separate Black (BL) or Midnight (MN) controls and accessories.

**Designer wallplates**



6-gang\* CW-6-**XX**<sup>1</sup>  
SC-6-**XX**<sup>2</sup>  
W: 12.00 in (305 mm); H: 4.69 in (119 mm)  
Profile: 0.31 in (8 mm)

**Cable jacks**



- F-style, 75-Ohm coaxial cable
- Wallplate sold separately

Single cable jack\* CA-CJ-**XX**<sup>3</sup>  
SC-CJ-**XX**<sup>2</sup>

**Telephone jacks**



- 6-conductor telephone jack, RJ11
- Wallplate sold separately

Single telephone jack\* CA-PJ-**XX**<sup>3</sup>  
SC-PJ-**XX**<sup>2</sup>

**Receptacles**



- Wallplate sold separately indicator status
- Tamper resistant receptacles include tamper resistant shutter mechanism (shutters are white)

**Tamper resistant receptacles\***

15 A	125 V	CARS-15-TR- <b>XX</b> <sup>3</sup>
15 A	125 V	SCRS-15-TR- <b>XX</b> <sup>2</sup>
20 A	125 V	SCRS-20-TR- <b>XX</b> <sup>2</sup>

**Receptacles\***

15 A	125 V	CAR-15- <b>XX</b> <sup>3</sup>
15 A	125 V	SCR-15- <b>XX</b> <sup>2</sup>
20 A	125 V	SCR-20- <b>XX</b> <sup>2</sup>

**GFCI Receptacles**



- Press test button to confirm LED indicator status
- Press reset button to reset GFCI after circuit interruption
- Wallplate sold separately
- Tamper resistant shutter mechanism (shutters are white)

**Tamper resistant GFCI receptacles\***

15 A	125 V	GFCI	CAR-15-GFTR- <b>XX</b> <sup>3</sup>
15 A	125 V		SCR-15-GFTR- <b>XX</b> <sup>2</sup>
20 A	125 V	GFCI	SCR-20-GFTR- <b>XX</b> <sup>2</sup>

**XX**<sup>1</sup>: Gloss and Stainless Steel color codes, see pg. 409

**XX**<sup>2</sup>: Satin color codes, see pg. 409

**XX**<sup>3</sup>: Gloss color codes, see pg. 409

\*Stainless Steel finish only available as separate wallplate. Match with separate Black (BL) or Midnight (MN) controls and accessories.

**Receptacles for dual dimming use**



- Duplex for dimming both connected loads
- Projecting nubs prevent standard plugs from being used
- Requires replacement plugs for dimming use, see next page
- Tamper resistant shutter mechanism
- Wallplate sold separately

**Receptacles for half dimming use**



- Top half for dimming
- Projecting nub prevents standard plug from being used
- Requires replacement plugs for dimming use, see next page
- Bottom half is a general use receptacle and will fit standard duplex plugs
- Tamper resistant shutter mechanism
- Wallplate sold separately

**Dual dimming, tamper resistant**

15 A	120/125V*	CAR-15-DDTR- <b>XX</b> <sup>1</sup> SCR-15-DDTR- <b>XX</b> <sup>2</sup>
20 A	120/125V*	CAR-20-DDTR- <b>XX</b> <sup>1</sup> SCR-20-DDTR- <b>XX</b> <sup>2</sup>

**Half dimming, tamper resistant**

15 A	120/125V*	CAR-15-HDTR- <b>XX</b> <sup>1</sup> SCR-15-HDTR- <b>XX</b> <sup>2</sup>
20 A	120/125V*	CAR-20-HDTR- <b>XX</b> <sup>1</sup> SCR-20-HDTR- <b>XX</b> <sup>2</sup>

**XX**<sup>1</sup>: Gloss color code and Stainless Steel, see pg. 409

**XX**<sup>2</sup>: Satin color codes, see pg. 409

\*Stainless Steel finish only available as separate wallplate. Match with separate Black (BL) or Midnight (MN) controls and accessories.

**Replacement plug for dimming  
(use with receptacles for dimming use)**



- This plug required for use with Lutron® receptacles for dimming use—plug will work in standard receptacle
- Easily replaces the existing plugs on lamps

120/125 V White	RP-FDU-10-WH
120/125 V Brown	RP-FDU-10-BR

UL/CSA/NOM regulatory approvals.

**Important notes**

- Receptacles and plugs for dimming use are UL listed for use with Lutron controls included in this catalog.
- If there is only one electrical feed to the receptacle, then the duplex DDTR must be used.
- If the hot and dimmed hot feeds to the split duplex HDTR are supplied from different circuits or split-wired with separate switch-legs, a means to simultaneously disconnect these circuits must be provided at the panel board where they originate (NEC 210.7(C) 2002 Edition). A 2-pole circuit breaker or two single-pole circuit breakers with an approved handle tie can be used to accomplish this simultaneous disconnect. Feed-through dimming panels, which are those without breakers, are recommended when using the HDTR.
- For detailed information, see Application Notes #91 (Guide to Dimming Table Lamps) and #109 (Guide to Dimming Portable Lamps via Receptacles) at [www.lutron.com/applicationnotes](http://www.lutron.com/applicationnotes)

**Field customizable 6-port frame**



- Shipped with six blanks in matching colors
- Connectors and wallplate sold separately
- Connectors snap in (no tools required)

**Switches**



- Paddle turns on/off
- Use with any 15A load
- General purpose switching of all sources and motor loads
- No derating if ganged
- Wallplate available separately, see pg. 394-395


6-port frame*	CA-6PF- <b>XX</b> <sup>1</sup> SC-6PF- <b>XX</b> <sup>2</sup>
---------------	--

**General purpose switches (120/277 V)**





Single-pole	15 A*	CA-1PS- <b>XX</b> <sup>1</sup> SC-1PS- <b>XX</b> <sup>2</sup>
3-way	15 A*	CA-3PS- <b>XX</b> <sup>1</sup> SC-3PS- <b>XX</b> <sup>2</sup>
4-way	15 A*	CA-4PS- <b>XX</b> <sup>1</sup> SC-4PS- <b>XX</b> <sup>2</sup>

**Connectors for 6-port frame**

**Telephone/network jacks**

 8-conductor, RJ45 category 3	CON-1P-C3- <b>XX</b> <sup>3</sup>
8-conductor, RJ45 category 5e	CON-1P-C5E- <b>XX</b> <sup>3</sup>
8-conductor, RJ45 category 6	CON-1P-C6- <b>XX</b> <sup>3</sup>


**Fiber jacks**

 MT-RJ feed through	CON-1F-MTRJ-WH
 SC simplex	CON-1F-SC-WH
 LC non-flush mount	CON-1F-LC-WH
 ST style	CON-1F-ST-WH

**Cable jack**

 F-style, 75-Ohm coaxial cable	CON-1C- <b>XX</b> <sup>3</sup>
--	--------------------------------

**BNC jack**

 BNC connector, 50-Ohm	CON-1B-WH
--	-----------

Connectors only for use with 6-port frame.

**General purpose switch with locator light (120V only)**

Single-pole	15 A*	CA-1PSNL- <b>XX</b> <sup>4</sup> SC-1PSNL- <b>XX</b> <sup>5</sup>
3-way	15 A*	CA-3PSNL- <b>XX</b> <sup>4</sup> SC-3PSNL- <b>XX</b> <sup>5</sup>
4-way	15 A*	CA-4PSNL- <b>XX</b> <sup>4</sup> SC-4PSNL- <b>XX</b> <sup>5</sup>

**XX**<sup>1</sup>: Gloss color codes, see pg. 409

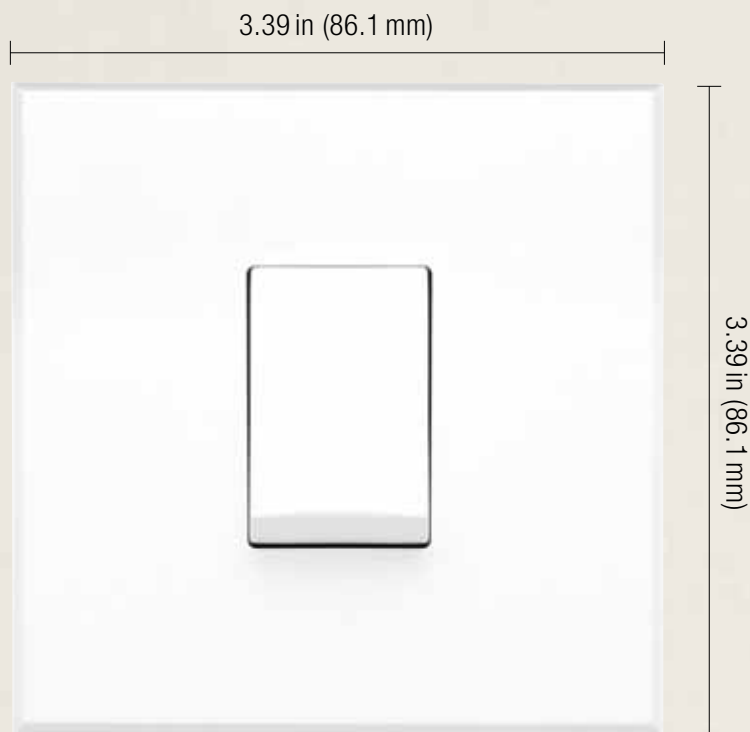
**XX**<sup>2</sup>: Satin color codes, see pg. 409

**XX**<sup>3</sup>: Only available in White (WH) and Black (BL)

**XX**<sup>4</sup>: Only available in Almond (AL), Ivory (IV), Light Almond (LA), and White (WH)

**XX**<sup>5</sup>: Only available in Biscuit (BI), Eggshell (ES), Goldstone (GS), Limestone (LS), Sea Glass (SG), and Snow (SW)

\*Stainless Steel finish only available as separate wallplate. Match with separate Black (BL) or Midnight (MN) controls and accessories.



Shown actual size: 1-gang switch with unframed wallplate in Arctic White (RN-SS10-B-FAW-M)

### Product Family Features

- Full line of wiring devices
- Matte, metallic and metal finishes available to coordinate with Lutron controls
- CE and IEC rated
- All Lutron wallplates are screwless, seamless, and have no visible hardware; the front plate securely snaps into the alignment adapter plate



## Color options

Use **BOLD** color code in model number (Example: RN-SS10-B-**AW**-M)

### Matte finishes



**AW**  
Arctic White

### Metallic finishes



**MC**  
Mica



**AR**  
Argentum

### Metal finishes\*



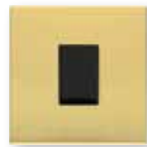
**SN**  
Satin Nickel



**BN**  
Bright Nickel



**BB**  
Bright Brass



**SB**  
Satin Brass



**SC**  
Satin Chrome



**BC**  
Bright Chrome



**AU**  
Gold Plated



**QB**  
Antique Brass



**QZ**  
Antique Bronze

## Model numbers

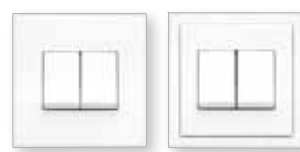
### Single switch, 2-way



• 10 AX, 250V~

Unframed	RN-SS10-B- <b>XXX</b> <sup>1</sup> -M
Framed (matching frame and insert)	RN-SS10-B- <b>IXX</b> <sup>1</sup> -M
Framed (black frame/metal insert)	RN-SS10-B- <b>BXX</b> <sup>2</sup> -M
W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)	
D: .81 in (20.5 mm)	

### Dual Switch, 2-way



• 2 x 10 AX, 250V~

Unframed	RN-DS10-B- <b>XXX</b> <sup>1</sup> -M
Framed (matching frame and insert)	RN-DS10-B- <b>IXX</b> <sup>1</sup> -M
Framed (black frame/metal insert)	RN-DS10-B- <b>BXX</b> <sup>2</sup> -M
W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)	
D: .81 in (20.5 mm)	

## Model numbers

### Shutter R/L switch



- 2 x 10 AX, 250V~

Unframed	CPW0856-F <b>XX</b> <sup>1</sup> -M
Framed	CPW0856-I <b>XX</b> <sup>1</sup> -M
(matching frame and insert)	
Framed	CPW0856-B <b>XX</b> <sup>2</sup> -M
(black frame/metal insert)	
W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)	
D: .81 in (20.5 mm)	

### Intermediate switch



- 10 AX, 250V~

Unframed	RN-IS10-B-F <b>XX</b> <sup>1</sup> -M
Framed	RN-IS10-B-I <b>XX</b> <sup>1</sup> -M
(matching frame and insert)	
Framed	RN-IS10-B-B <b>XX</b> <sup>2</sup> -M
(black frame/metal insert)	
W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)	
D: .93 in (23.6 mm)	

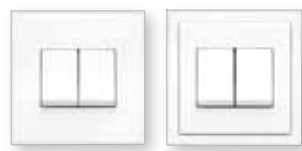
### Single momentary switch



- 10 AX, 250V~
- For use with step/impulse relay

Unframed	RN-SM10-B-F <b>XX</b> <sup>1</sup> -M
Framed	RN-SM10-B-I <b>XX</b> <sup>1</sup> -M
(matching frame and insert)	
Framed	RN-SM10-B-B <b>XX</b> <sup>2</sup> -M
(black frame/metal insert)	
W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)	
D: .87 in (22 mm)	

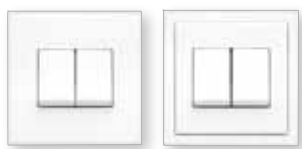
### Dual Intermediate switch



- 2 x 10 AX, 250V~

Unframed	CPW0732-F <b>XX</b> <sup>1</sup> -M
Framed	CPW0732-I <b>XX</b> <sup>1</sup> -M
(matching frame and insert)	
Framed	CPW0732-B <b>XX</b> <sup>2</sup> -M
(black frame/metal insert)	
W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)	
D: .93 in (23.6 mm)	

### Dual momentary switch



- 2 x 10 AX, 250V~
- For use with step/impulse relay

Unframed	RN-DM10-B-F <b>XX</b> <sup>1</sup> -M
Framed	RN-DM10-B-I <b>XX</b> <sup>1</sup> -M
(matching frame and insert)	
Framed	RN-DM10-B-B <b>XX</b> <sup>2</sup> -M
(black frame/metal insert)	
W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)	
D: .87 in (22 mm)	

**XX**<sup>1</sup>: Matte, metallic and metal color codes, see pg. 416  
**XX**<sup>2</sup>: Metal color codes, see pg. 416

**Schuko socket**



- 16A, 250V

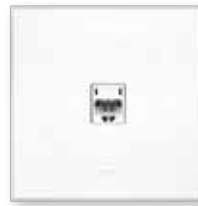
Framed RN-RS16-B-**IXX**<sup>1</sup>-M  
(matching frame and insert)

Framed RN-RS16-B-B**XX**<sup>2</sup>-M  
(black frame/metal insert)

W: 3.39in (86.1 mm); H: 3.39in (86.1 mm)

D: 1.21in (30.7 mm)

**RJ11 phone jack**



- 6-conductor jack
- Cat 3

Unframed RN-RJ11-B-F**XX**<sup>1</sup>-M

Framed RN-RJ11-B-**IXX**<sup>1</sup>-M  
(matching frame and insert)

Framed RN-RJ11-B-B**XX**<sup>2</sup>-M  
(black frame/metal insert)

W: 3.39in (86.1 mm); H: 3.39in (86.1 mm)

D: 1.02in (26mm)

**French socket**



- 16A, 250V
- With earthing pin (type E)

Framed RN-RE16-B-**IXX**<sup>1</sup>-M  
(matching frame and insert)

Framed RN-RE16-B-B**XX**<sup>2</sup>-M  
(black frame/metal insert)

W: 3.39in (86.1 mm); H: 3.39in (86.1 mm)

D: 1.21in (30.7 mm)

**RJ45 network jack**



- 8-conductor jack
- Cat 5

Unframed RN-RJ45-B-F**XX**<sup>1</sup>-M

Framed RN-RJ45-B-**IXX**<sup>1</sup>-M  
(matching frame and insert)

Framed RN-RJ45-B-B**XX**<sup>2</sup>-M  
(black frame/metal insert)

W: 3.39in (86.1 mm); H: 3.39in (86.1 mm)

D: 1.02in (26mm)

**French phone jack**



Framed RN-FRPJ-B-**IXX**<sup>1</sup>-M  
(matching frame and insert)

Framed RN-FRPJ-B-B**XX**<sup>2</sup>-M  
(black frame/metal insert)

W: 3.39in (86.1 mm); H: 3.39in (86.1 mm)

D: 0.68in (17.2mm)

**Sat jack**



- F-style
- 75-Ohm
- Coaxial cable jack

Unframed RN-TF75-B-F**XX**<sup>1</sup>-M

Framed RN-TF75-B-**IXX**<sup>1</sup>-M  
(matching frame and insert)

Framed RN-TF75-B-B**XX**<sup>2</sup>-M  
(black frame/metal insert)

W: 3.39in (86.1 mm); H: 3.39in (86.1 mm)

D: 0.43in (11 mm)

**XX**<sup>1</sup>: Matte, metallic and metal color codes, see pg. 416

**XX**<sup>2</sup>: Metal color codes, see pg. 416

**Triplexer - terminated**



- 5-2300MHz
- Loss ≤ 4 dB

Framed RN-TRI1-B-**XX**<sup>1</sup>-M  
 (matching frame and insert)

Framed RN-TRI1-B-**XX**<sup>2</sup>-M  
 (black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)  
 D: .83 in (21 mm)

**Triplexer - intermediate**



- 5-2300MHz
- Loss ≤ 7 dB

Framed RN-TRI2-B-**XX**<sup>1</sup>-M  
 (matching frame and insert)

Framed RN-TRI2-B-**XX**<sup>2</sup>-M  
 (black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)  
 D: .83 in (21 mm)

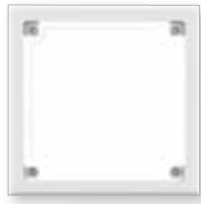
**Trim ring**



- For use when retrofitting dimmers in shallow backboxes

Trim ring RN-TRRG-B-**XX**<sup>3</sup>-M  
 W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)  
 D: .52 in (13.1 mm)

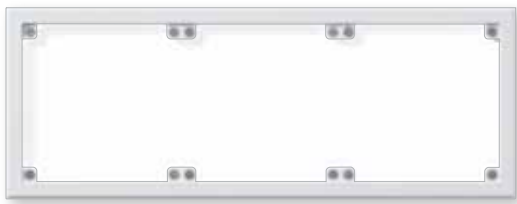
**Frames**



1-gang RN-1GANG-B-**XX**<sup>1</sup>-M  
 W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)



2-gang RN-2GANG-B-**XX**<sup>1</sup>-M  
 W: 6.19 in (157.1 mm); H: 3.39 in (86.1 mm)



3-gang RN-3GANG-B-**XX**<sup>1</sup>-M  
 W: 8.98 in (228.1 mm); H: 3.39 in (86.1 mm)

**XX**<sup>1</sup>: Matte, metallic and metal color codes, see pg. 416  
**XX**<sup>2</sup>: Metal color codes, see pg. 416  
**XX**<sup>3</sup>: Available in Arctic White (AW), Mica (MC), Argentum (AR), and Black (BL)

## Blank faceplate



Unframed	RN-BLFP-B- <b>FX</b> <sup>1</sup> -M
Framed (matching frame and insert)	RN-BLFP-B- <b>IX</b> <sup>1</sup> -M
Framed (black frame/metal insert)	RN-BLFP-B- <b>BXX</b> <sup>2</sup> -M
W: 3.39in (86.1 mm); H: 3.39in (86.1 mm)	

## 1-port frame



- Use with any snap-in connectors. See pg. 404

Unframed	RN-1PFR-B- <b>FX</b> <sup>1</sup> -M
Framed (matching frame and insert)	RN-1PFR-B- <b>IX</b> <sup>1</sup> -M
Framed (black frame/metal insert)	RN-1PFR-B- <b>BXX</b> <sup>2</sup> -M
W: 3.39in (86.1 mm); H: 3.39in (86.1 mm)	
D: 0.43in (11 mm)	

## 2-port frame




- Use with any 2 snap-in connectors. See pg. 404





Unframed	RN-2PFR-B- <b>FX</b> <sup>1</sup> -M
Framed (matching frame and insert)	RN-2PFR-B- <b>IX</b> <sup>1</sup> -M
Framed (black frame/metal insert)	RN-2PFR-B- <b>BXX</b> <sup>2</sup> -M
W: 3.39in (86.1 mm); H: 3.39in (86.1 mm)	
D: 0.43in (11 mm)	

## Connectors for 1- and 2-port frames

### Telephone/network jacks

 8-conductor, RJ45 category 3	CON-1P-C3- <b>XX</b> <sup>3</sup>
8-conductor, RJ45 category 5e	CON-1P-C5E- <b>XX</b> <sup>3</sup>
8-conductor, RJ45 category 6	CON-1P-C6- <b>XX</b> <sup>3</sup>


### Fiber jacks

 MT-RJ feed through	CON-1F-MTRJ-WH
 SC simplex	CON-1F-SC-WH
 LC non-flush mount	CON-1F-LC-WH
 ST style	CON-1F-ST-WH


### Cable jack

 F-style, 75-Ohm coaxial cable	CON-1C- <b>XX</b> <sup>3</sup>
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### BNC jack

 BNC connector, 50-Ohm	CON-1B-WH
Connectors only for use with 6-port frame.	

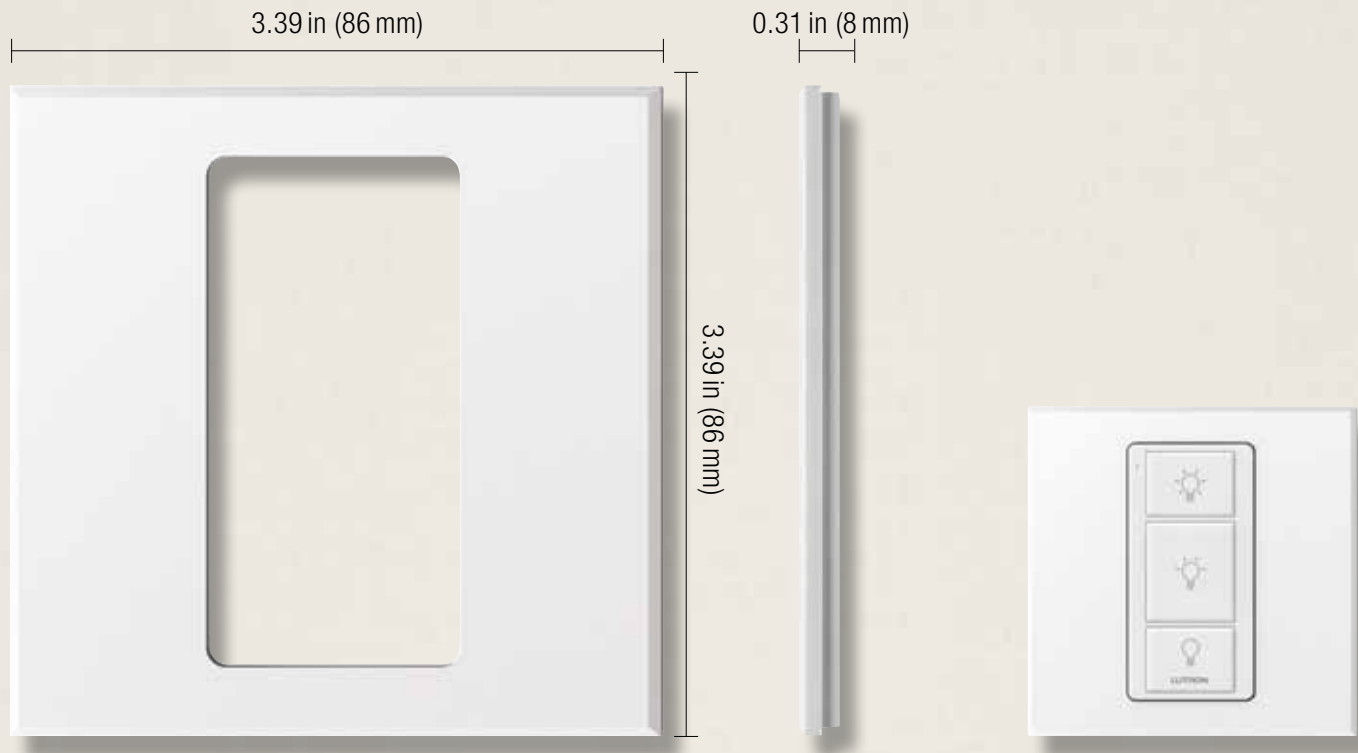
### Cable outlet module

 Diameter range 1.8 to 8 mm	CON-COTL- <b>XX</b> <sup>3</sup>
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**XX**<sup>1</sup>: Matte, metallic and metal color codes, see pg. 416

**XX**<sup>2</sup>: Metal color codes, see pg. 416

**XX**<sup>3</sup>: Only available in White (WH) and Black (BK)



Shown actual size: 1-gang International square wallplate for Pico in Arctic White (PFP-1-B-FAW-CPN5692)

Pico mounted inside a one Pico control opening international square wallplate in Arctic White (PFP-1-B-FAW-CPN5692)

### Product family features

- Intended to mount flush to the wall, no backbox required
- Use with Pico wireless controls
- All Lutron® wallplates are screwless, seamless and have no visible hardware; the front plate securely snaps into the alignment adapter plate
- Available for one or two Pico controls
- Adapter plate included with the wallplate as a kit

## Color options

Use **BOLD** color code in model number (Example: PFP-1-B-**SN**-CPN5692)

### Matte finishes



**AW**  
Arctic White



**MN**  
Midnight

### Metal finishes\*



**SN**  
Satin Nickel



**BN**  
Bright Nickel



**BB**  
Bright Brass



**SB**  
Satin Brass



Two Pico wireless controls in a two Pico control openings international square wallplate

## Model numbers

### Square wallplate

1 Pico control opening	PFP-1-B- <b>XXX</b> <sup>1</sup> -CPN5692
2 Pico control openings	PFP-2-B- <b>XXX</b> <sup>1</sup> -CPN5692

**XX**<sup>1</sup>: Limited matte and metal color codes, see above.

\*Metal finish wallplates include black plastic trim/adaptor, visible from side. Match with separate Black (BL) Pico controls.



Shown above: QS link plug-in power supply (QSPS-P1-1-50)

**Features and capacities**

- Supplies power to keypads, shades, and accessories
- Output voltage: 24VDC
- Simple wiring scheme utilizing 4-conductor low-voltage link
- Available in plug-in and hard-wired models (junction box mounted, DIN-rail mounted or panel)

**Dimensions and mounting**

- Plug-in:  
Width: 2.57 in (70 mm)  
Height: 4.0 in (102 mm)  
Depth: 1.2 in (31 mm)  
Surface mount
- J-box:  
Width: 4.1 in (104 mm)  
Height: 4.3 in (109 mm)  
Depth: 1.4 in (36 mm)  
Mount in 4.0 in (102 mm) x 4.0 in (102 mm) junction box
- DIN-rail:  
Width: 3.5 in (90 mm)  
Height: 5.9 in (150 mm)  
Depth: 2.4 in (61 mm)  
Surface mount or mount on DIN-rail
- Panel:  
Width: 9.5 in (241 mm)  
Height: 17.5 in (444 mm)  
Depth: 3.9 in (99 mm)  
Surface mount

**Model numbers**

**QS link power supply**

Plug-in, 100-240VAC, NEMA 5-15 plug	QSPS-P1-10-50
Plug-in, 100-240VAC, CEE 7/7 plug	QSPS-P2-10-50
Plug-in, 100-240VAC, BS 1363 plug	QSPS-P3-10-50
J-box, 120VAC	QSPS-J1-1-50
DIN-rail, 100-240VAC	STEP-PS/1AC/24DC/3.8/C2LPS-CPN5550
Panel, 120VAC	QSPS-P1-10-60
Panel, 230VAC (CE)	QSPS-P2-10-60
Panel, 100VAC (CE)	QSPS-P4-10-60





### Features and capacities

- SELV-equivalent step-down converter for halogen lamps
- Compatible with Lutron leading or trailing edge 230V (CE) products
- Incorporates short-circuit, thermal, and overload protection with self-resetting capabilities
- Input power: 230-240VAC 50/60Hz
- Available in 60 or 105W rated models

### Dimensions and mounting

- Length: 5.9 in (150 mm); Height: 1.65 in (42 mm)  
Depth: 1.26 in (32 mm)
- Screw fixing located under each terminal cover/strain relief for mounting

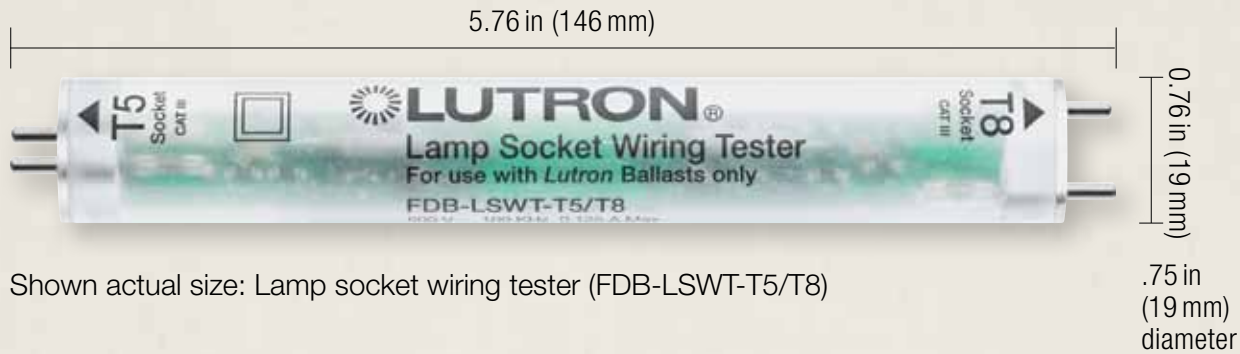
## Model numbers

### 60W electronic low-voltage transformer

Terminals only on primary and secondary	ELVXF-60-T20-CE
Lead wires one pair on secondary	ELVXF-60-L21-CE
Lead wires one pair on primary and secondary	ELVXF-60-L22-CE

### 105W electronic low-voltage transformer

Terminals only on primary and secondary	ELVXF-105-T20-CE
--	------------------



## Features and capacities

- Enables installers to easily verify proper pin wiring for fluorescent lamp sockets
- Aids in identifying: lamps wired in series, instant start sockets, wires not connected to the socket or ballast, and shorted socket wires
- Assist in avoiding common problems associated with ballast retrofits
- Test wires without having to open fixtures
- It is not designed to diagnose incorrect input wiring to the ballast or controls
- 600 V, 100 kHz, 0.125 A maximum, CAT III

## Dimensions

- Product dimensions:
  - Width: 5.76 in (146 mm)
  - Height: 0.76 in (19 mm)
  - Diameter: 0.75 in (19 mm)

## Model number

### Tester

Lamp socket wiring tester	FDB-LSWT-T5/T8
---------------------------	----------------



## Features and capacities

- Prevents tampering with GRAFIK Eye® QS main units, keypads or wallstations
- Permits infrared operation
- Models available for 1,2,3, and 4 gang devices
- Available in translucent smoked gray
- Cover slides left or right

## Model numbers

### Lockable covers

1-gang	GRX-1GLC
2-gang	GRX-2GLC
3-gang	GRX-3GLC
4-gang	GRX-4GLC



Shown above: Enclosure for  
QS control interfaces (LUT-5X10-ENC)

#### Features and capacities

- Provides mounting for one QS control interface
- Includes six available side knockouts as well as two bottom and one top knockout.
- Provides access for installations where running wiring through piping is desired or required by local code.
- Steel construction with black powder coat finish

#### Dimensions and mounting

- Width: 5.75 in (146 mm)  
Height: 10.75 in (273 mm)  
Depth: 2.00 in (50 mm)
- Screws to attach cover included
- Mounting screws provided by customer

## Model numbers

### Enclosure

---

**Enclosure for QS control interfaces** LUT-5X10-ENC

---

Compatible with QS contact closure input/output interface, QS RS232/Ethernet interface and QS DMX control interface



Shown above: Mounting rack for QS control interfaces (LUT-19AV-1U)

## Features and capacities

- Audiovisual rack that will hold up to four QS control interfaces
- When mounting, provide sufficient space for connecting cables
- The unit can also be placed in the LUT-19AV-1U AV rack using the screws provided with the unit.

## Dimensions and mounting

- Width: 18.94 in (481 mm)  
Height: 1.75 in (44 mm)  
Depth: 5.19 in (132 mm)
- Mounts in standard 19in AV-1U racks
- Unit mounting screws included with QS control interface units
- Mounting screws provided by customer
- Steel construction with black powder coat finish

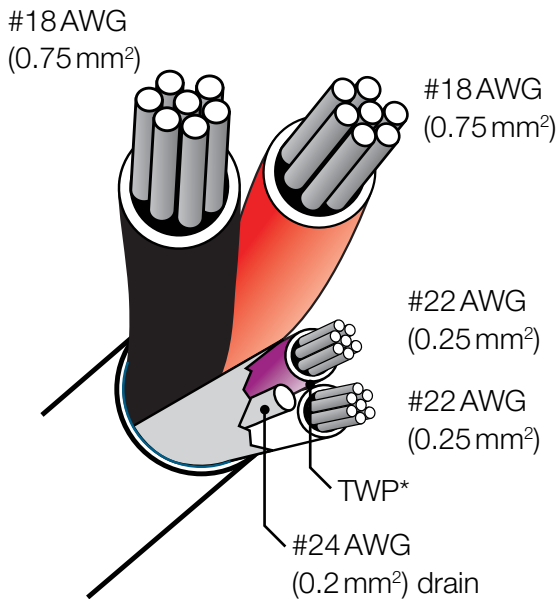
## Model numbers

### Mounting rack

Mounting rack for QS control interfaces	LUT-19AV-1U
--	-------------

Compatible with QS contact closure input/output interface, QS RS232/Ethernet interface and QS DMX control interface

## 4-conductor cable



### Features

- Available in 500 ft (150 m) spool
- Five conductors:
  - Common—#18 AWG (0.75 mm<sup>2</sup>)
  - Power—#18 AWG (0.75 mm<sup>2</sup>)
  - MUX data—#22 AWG (0.25 mm<sup>2</sup>)
  - MUX data—#22 AWG (0.25 mm<sup>2</sup>)
  - Drain wire—#24 AWG (0.2 mm<sup>2</sup>)
- 300V rated
- UL/CSA listed
- Capacitance of 22 AWG (0.25 mm<sup>2</sup>) twisted wire pair:
  - conductor to shield: 48 pf/ft max
  - conductor to conductor: 25 pf/ft max

### Plenum rated

- Plenum rated for use in ceilings and enclosures that are also used by the building air distribution system to transport environmental air
- Listed as cable type CL3P or CMP
- Total outer jacket diameter: 0.17 in (4.37 mm)
- Plenum sheath, 75° C rated
- Rated FT6

### Non-plenum rated

- Listed as cable type CL3R or CMR
- Total outer jacket diameter: 0.21 in (5.3 mm)
- PVC sheath, 75° C rated
- Rated FT4

## Model numbers

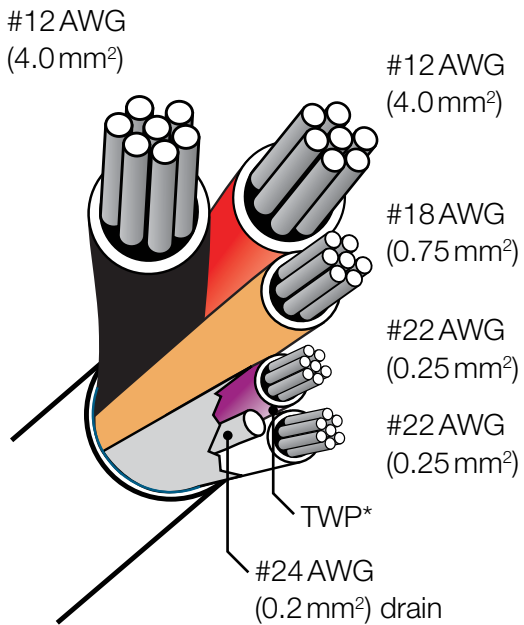
### 4-conductor cable

Plenum rated cable	GRX-PCBL-346S
Non-plenum rated cable	GRX-CBL-346S

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

\*TWP = twisted wire pair

## 5-conductor cable



### Features

- Available in 250 ft (75 m) or 500 ft (150 m) spools
- Six conductors:
  - Common—#12 AWG (4.0 mm<sup>2</sup>)
  - Power—#12 AWG (4.0 mm<sup>2</sup>)
  - MUX data—#22 AWG (0.25 mm<sup>2</sup>)
  - MUX data—#22 AWG (0.25 mm<sup>2</sup>)
  - Sense line—#18 AWG (0.75 mm<sup>2</sup>)
  - Drain wire—#24 AWG (0.2 mm<sup>2</sup>)
- 300V rated
- UL/CSA listed
- Capacitance of 22 AWG (0.25 mm<sup>2</sup>) twisted wire pair:
  - conductor to shield: 48 pf/ft max
  - conductor to conductor: 25 pf/ft max

### Plenum rated

- Plenum rated for use in ceilings and enclosures that are also used by the building air distribution system to transport environmental air
- Listed as cable type CL3P or CMP
- Total outer jacket diameter: 0.17 in (4.37 mm)
- Plenum sheath, 75 °C rated
- Rated FT6

### Non-plenum rated

- Listed as cable type CL3R or CMG
- Total outer jacket diameter: 0.325 in (8.25 mm)
- PVC sheath, 75 °C rated
- Rated FT4

## Model numbers

### 5-conductor cable

Plenum rated cable-250 ft	GRX-PCBL-46L-250
Plenum rated cable-500 ft	GRX-PCBL-46L-500
Non-plenum rated cable-250 ft	GRX-CBL-46L-250
Non-plenum rated cable-500 ft	GRX-CBL-46L-500

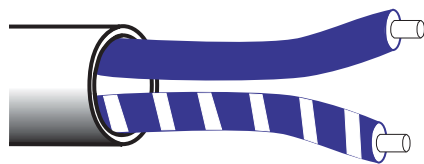
Compatible with Energi Savr Node systems.

\*TWP = twisted wire pair

## EcoSystem® cable



EcoSystem sensor cable



EcoSystem digital link cable

### Features

- Internal conductors match EcoSystem® device terminal and lead color scheme
- Each conductor sized for direct connection to EcoSystem ballast and module terminals
- Three types of EcoSystem digital link cable: non-plenum cable (CL3R) for Class 2 applications, non-plenum cable (TC) for Class 1 applications and plenum cable for plenum Class 2 applications
- Two types of EcoSystem Class 2 sensor cable: plenum sensor cable (CL2P), non-plenum sensor cable (CL2R)
- Available in 1000ft (305 m) +/- 10% spool

### Plenum rated

- Rated to a maximum of 300V

### Non-plenum rated

- Dual rated to a maximum of 300V or 600V dependant upon application

## Model numbers

### EcoSystem cable

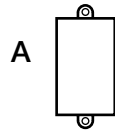
Plenum rated digital link cable, Class 2	C-PCBL-216-CL-1
Non-plenum rated digital link cable, Class 1	C-CBL-216-WH-1
Non-plenum rated digital link sensor cable, Class 2	C-CBL-216-GR-1
Plenum rated sensor cable	C-PCBL-522S-CL-1
Non-plenum rated sensor cable	C-CBL-522S-WH-1



## Mounting requirements for dimmers, switches, sensors and accessories

### Individual devices

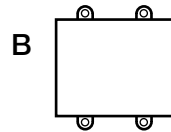
Individual dimmers, switches, wall sensors and accessories typically mount in standard 1-gang electrical boxes (**fig. A**). No derating (reduction in maximum capacity) required.



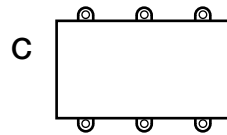
1-gang box  
Width: 2.00 in (51 mm)  
Height: 3.00 in (76 mm)  
Depth: 2.50 in (64 mm)

### Standard ganging

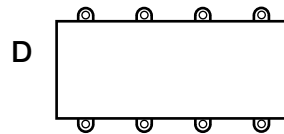
Multiple dimmers, switches, wall sensors, and accessories typically mount in standard multi-gang electrical backboxes (**fig. B–D**) under standard multi-gang wallplates. Some devices may require derating.



2-gang box  
Width: 4.00 in (102 mm)  
Height: 3.00 in (76 mm)  
Depth: 2.50 in (64 mm)



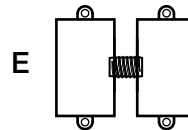
3-gang box  
Width: 6.00 in (152 mm)  
Height: 3.00 in (76 mm)  
Depth: 2.50 in (64 mm)



4-gang box  
Width: 8.00 in (203 mm)  
Height: 3.00 in (76 mm)  
Depth: 2.50 in (64 mm)

### Custom Architectural ganging

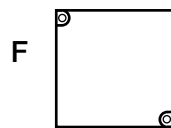
Architectural dimmers, switches, and accessories may be ganged without derating (**fig. E**), but wider-than-standard electrical backboxes and customized wallplates may be required. For more information on custom Architectural ganging.



(2) 1-gang boxes  
with 3/4 in (19 mm) spacer

### Lighting load power interfaces (pg. 292)

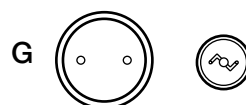
Interfaces typically mount to a standard electrical junction box (**fig. F**); must be mounted within seven degrees of vertical. Maximum output: 5.1 in x 6.3 in. Interfaces project 1.2 in in front of box.



Junction box  
Width: 4.00 in (102 mm)  
Height: 4.00 in (102 mm)  
Depth: 2.50 in (64 mm)

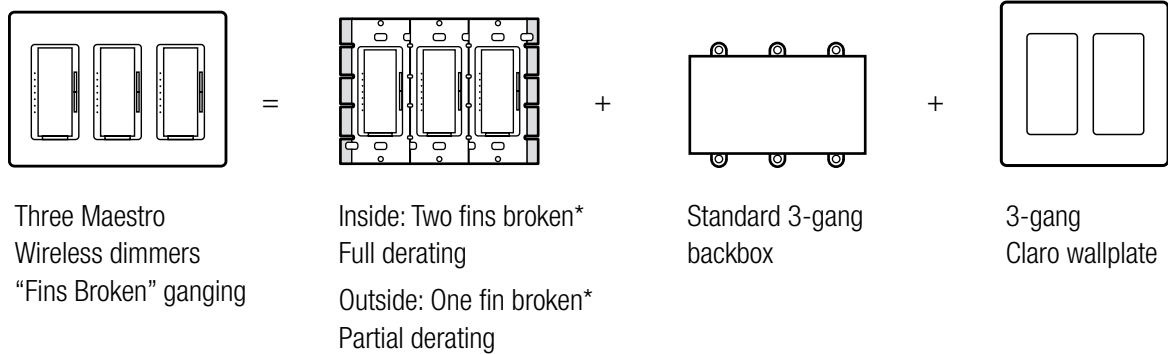
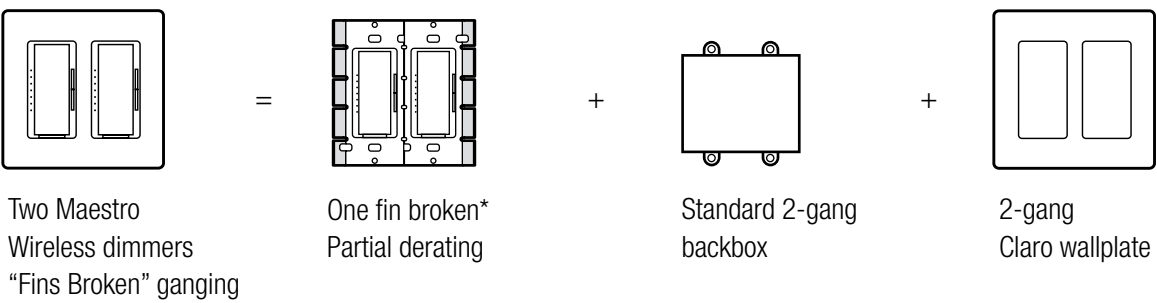
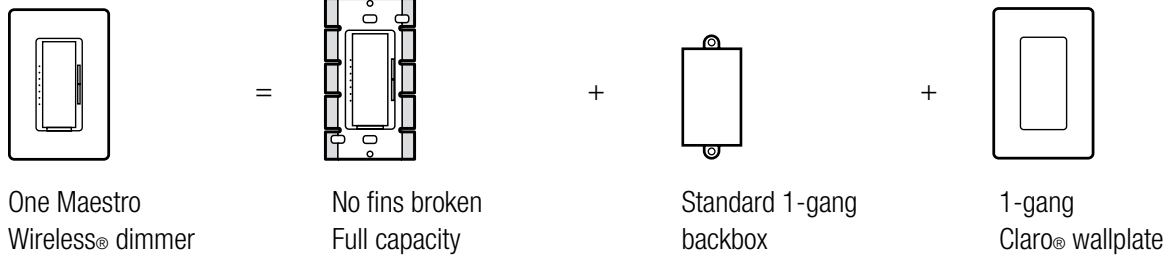
### Ceiling/wall mount sensors (pg. 214)

Ceiling/wall mount sensors (**fig. G**) mount to brackets provided utilizing included mounting hardware. Radio Powr Savr™ wireless sensors can be mounted temporarily with adhesive strips (P/N L-CMDPIRKIT)



Wireless sensor  
mounting bracket  
[3.20 in (81 mm) diameter  
footprint, mounting  
brackets are spaced  
1.80 in (46 mm) apart]

Standard ganging and fins broken derating examples:

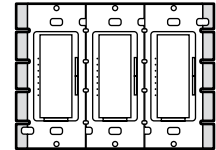
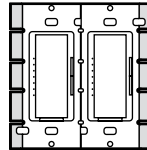
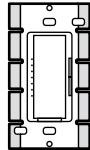


For further information on ganging and derating, visit [www.lutron.com/multigang](http://www.lutron.com/multigang).

\*The fins are scored and designed to be removed easily.

Derating table 1

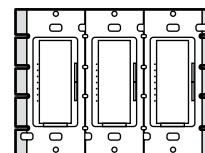
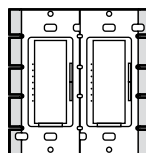
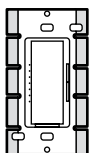
**RadioRA® 2**



	No fins broken	1 fin broken	2 fins broken
<b>Incandescent</b>			
Dimmers	600 W	500 W	400 W
	1000 W	800 W	650 W
<b>Magnetic low-voltage</b>			
Dimmers	600 VA/450 W	500 VA/400 W	400 VA/300 W
	1000 VA/800 W	800 VA/650 W	650 VA/500 W
<b>Electronic low-voltage</b>			
Dimmers	600 W	500 W	400 W
<b>Fluorescent/LED</b>			
<b>Hi-lume®/EcoSystem®/Hi-lume 3D/Hi-lume A-series LED Driver</b>			
Dimmer	60 ballasts or 6 A	50 ballasts or 5 A	35 ballasts or 3.5 A
<b>Lighting</b>			
Switch	8 A	6.5 A	5 A
Dual-voltage switch	8 A	8 A (2-gang) or 7 A (3-gang)	7 A
<b>Motor</b>			
Switch	5.8 A or 1/4 HP	5.8 A or 1/4 HP	4.4 A or 1/6 HP
Dual-voltage switch	3 A or 1/10 HP	3 A or 1/10 HP	3 A or 1/10 HP

## Derating table 2

### Maestro Wireless®



	No fins broken	1 fin broken	2 fins broken
<b>Incandescent</b>			
Dimmers	600 W	500 W	400 W
	1000 W	800 W	650 W
<b>Magnetic low-voltage</b>			
Dimmers	600 VA/450 W	500 VA/400 W	400 VA/300 W
	1000 VA/800 W	800 VA/600 W	650 VA/500 W
<b>Electronic low-voltage</b>			
Dimmers	600 W	500 W	400 W
<b>Fluorescent/LED</b>			
<b>Hi-lume®/EcoSystem®/Hi-lume 3D/Hi-lume A-series LED Driver</b>			
Dimmer	60 ballasts or 6 A	50 ballasts or 5 A	35 ballasts or 3.5 A
<b>Lighting</b>			
Switch	6 A	5 A	3.5 A
	8 A	6.5 A	5 A
Dual-voltage switch	8 A	8 A	7 A
<b>Motor</b>			
Switch	3 A or 1/10 HP	3 A or 1/10 HP	3 A or 1/10 HP
Dual-voltage switch	3 A or 1/10 HP	3 A or 1/10 HP	3 A or 1/10 HP

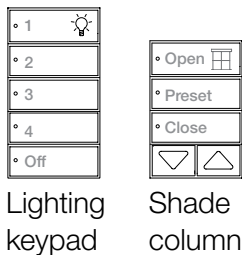
## Engraving, backlit buttons/text, and icon table overview

### seeTouch® QS and International seeTouch QS keypads and GRAFIK Eye® QS main unit engraving codes

**Omit** Unengraved  
Ships with engraving certificate that customer can redeem at no charge

**EGN** Standard Engraving

**SGN** Symbol-based Engraving



**NST** Non-standard Text Engraving

When ordering product with non-standard text engraving (NST) a completed engraving form must be submitted. Product will ship engraved as specified by customer.

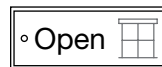
### Backlit buttons/text

Depending on color of buttons, engraving is either displayed as backlit text or on backlit buttons.

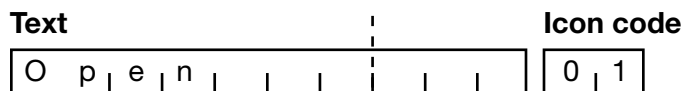
### Engraving

- 10 characters maximum (including spaces)
- Seven characters maximum (including spaces) when using ALL CAPS
- Seven characters maximum (including spaces) when using an icon (see next page for icon codes)
- Text engraving color varies by button color. Lighter colored buttons use gray text and darker colored buttons use white text. Visit [www.lutron.com/engraving](http://www.lutron.com/engraving) for further information.

### Example



For open icon window #1:



Seven characters maximum when using icon



Backlit buttons, typically on lighter colored buttons



Backlit text, typically on darker colored buttons (BR, BL, SI, MN)

### Download engraving sheets:

- GRAFIK Eye QS main unit (button kit)
- GRAFIK Eye QS main unit (faceplate)
- RadioRA 2 seeTouch wireless keypad (button kit)
- RadioRA 2 tabletop keypad (button kit)
- seeTouch QS keypad (Architectural matte and metal finishes)
- seeTouch QS keypad (Satin finishes)
- International seeTouch QS keypad

## Lutron character symbols - icon table

APPEARANCE ON:											
CODE	LIGHT*	DARK**	CODE	LIGHT*	DARK**	CODE	LIGHT*	DARK**	CODE	LIGHT*	DARK**
	BUTTON COLOR	BUTTON COLOR		BUTTON COLOR	BUTTON COLOR		BUTTON COLOR	BUTTON COLOR		BUTTON COLOR	BUTTON COLOR
01.			17.			33.			49.		
02.			18.			34.			50.		
03.			19.			35.			51.		
04.			20.			36.	$\frac{1}{4}$	$\frac{1}{4}$	52.		
05.			21.			37.	$\frac{1}{2}$	$\frac{1}{2}$	53.		
06.			22.			38.	$\frac{3}{4}$	$\frac{3}{4}$	54.		
07.			23.			39.			55.		
08.			24.			40.			56.		
09.			25.			41.			57.		
10.			26.			42.			58.		
11.			27.			43.			59.		
12.			28.			44.			60.		
13.			29.			45.			61.		
14.			30.			46.			62.		
15.			31.			47.			63.		
16.			32.			48.			64.		

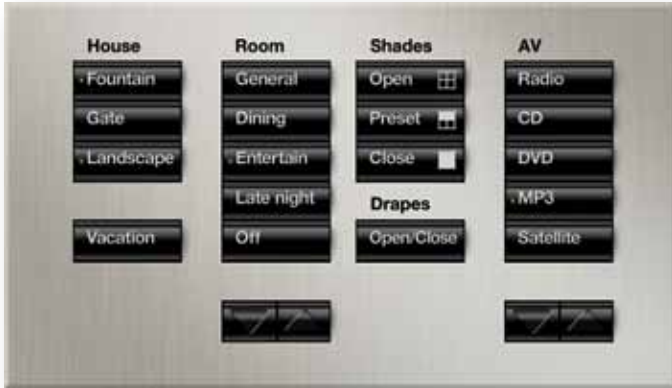
\* Light button colors include:

White (WH) Beige (BE) Almond (AL) Biscuit (BI) Snow (SW)  
Ivory (IV) Gray (GR) Light Almond (LA) Eggshell (ES) Taupe (TP)

\*\* Dark button colors include:

Black (BL)  
Brown (BR)

## Customized examples



Two-gang International seeTouch® QS control with custom button configuration



Two unique custom controls with customized button placements and engraving



Tabletop control to match seeTouch wall controls



As a finishing touch, add custom engraving, such as text, icons, and images

For more information on custom controls visit [www.lutron.com/customcontrols](http://www.lutron.com/customcontrols)







## Ivalo® fixtures

Smart design marries creative vision with progressive technology. Guided by this principle, Ivalo products aim to be functional, high-quality aesthetic solutions for every type of inhabitable space.

Ivalo fixtures are designed as architectural elements that are solutions to design problems. Each dimension and aspect of the form—including the canopy—is carefully considered.

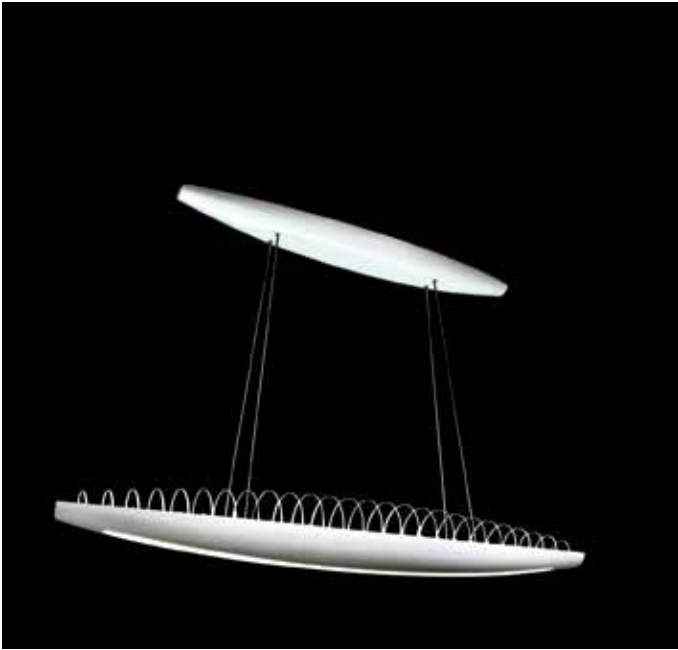
Ivalo products are assembled in America with exceptional attention to detail and with our new available quick-ship program, select models can be delivered in two weeks.





## Overview — Pendants

### Interior

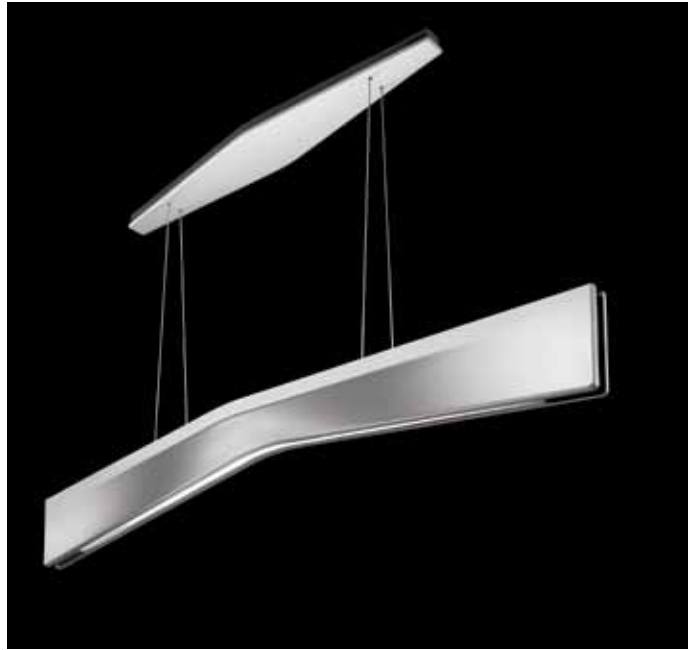


#### **Aliante®**

Aliante is designed for ballrooms and private offices, or over conference room tables, reception desks, dining tables, and kitchen islands.

- Length: 4 ft or 5 ft (adjustable)
- Light Orientation: direct/indirect or indirect only
- Lamp: dimmable and non-dimmable 1- or 2-lamp linear fluorescent T5 HO and T5 HE\*
- Interior use

### Interior



#### **Rotare®**

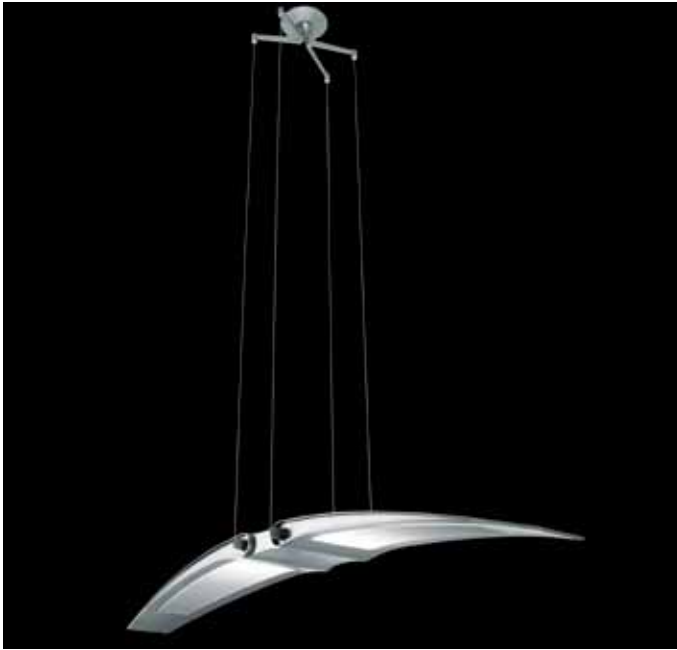
Rotare is designed for lobbies, atriums and private offices, or over conference room tables, reception desks, dining tables, and kitchen islands.

- Length: 4 ft 4 in (adjustable)
- Light Orientation: direct/indirect
- Lamp: dimmable and non-dimmable 1- or 2-lamp linear fluorescent T5 HO or T5 HE\*
- Interior use

\*Lamps are not included.

## Overview — Pendants

### Interior



#### L'ale®

L'ale is designed for ballrooms, lobbies, atriums and private offices, or over conference room tables and reception desks.

- Length: 4 ft 8 in (adjustable)
- Light Orientation: direct/indirect
- Lamp: dimmable and non-dimmable 2-lamp compact fluorescent\*
- Interior use

### Interior



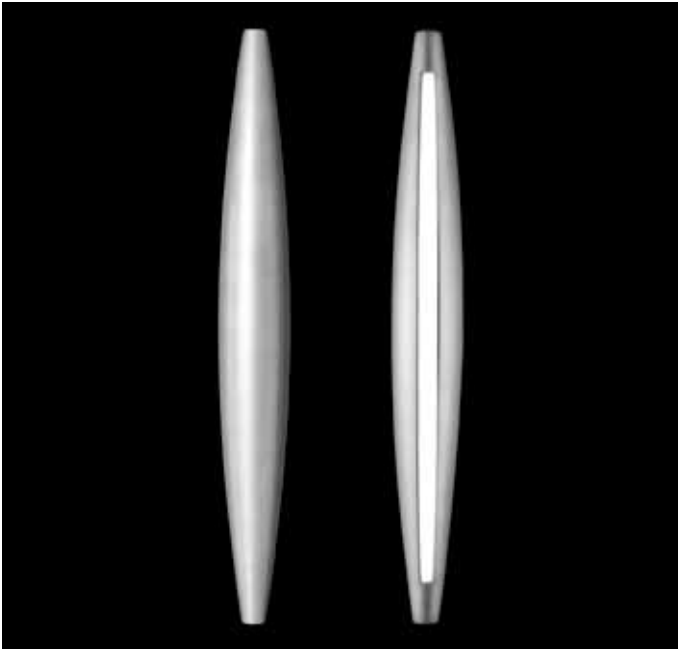
#### Daedalus®

Daedalus is designed for ballrooms, lobbies, atriums, reception areas, galleries restaurants and entry ways.

- Length: 5 ft (adjustable)
- Light Orientation: direct
- Lamp: 8 dimmable MR-11 low-voltage or non-dimmable LED MR-11 (available)\*
- Interior use

## Overview — Sconces

### Exterior/interior

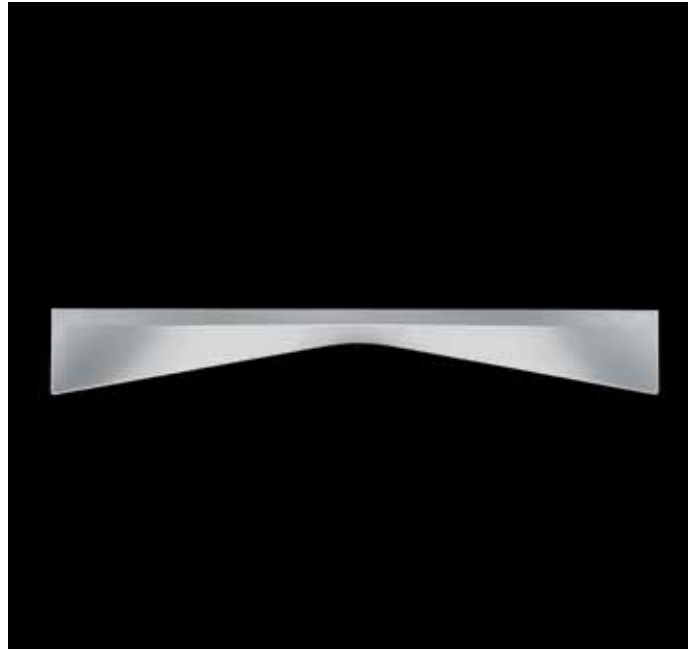


#### **Aliante®**

Aliante is designed for flanking doors, on columns, on building facades, and between windows/elevators.

- Length: 4 ft or 5 ft
- Light Orientation: direct/indirect or indirect only
- Lamp: dimmable and non-dimmable linear fluorescent T5 HO and T5 HE\*
- Exterior/interior use

### Exterior/interior



#### **Rotare®**

Rotare is designed for cove lighting in lobbies, conference rooms, reception areas and private offices.

- Length: 4 ft 4 in
- Light Orientation: indirect
- Lamp: dimmable and non-dimmable linear fluorescent T5 HO and T5 HE\*
- Exterior/interior use

\*Lamps are not included.

## Overview — Sconces

Exterior/interior



**Aliante® demi**

Aliante demi is designed for flanking doors, TVs and fireplaces, and between windows/elevators.

- Length: 21 in or 27 in (27 in mount available for exterior models)
- Light Orientation: direct/indirect or indirect only
- Lamp: (interior) incandescent, dimmable and non-dimmable CFL, dimmable white LED (exterior) non-dimmable CFL, HID
- Exterior/interior use
- Energy Star® qualified with Tu-Wire® control option



Exterior/interior



**Silvus®**

Silvus is designed for flanking doors and elevators, or mounted on columns; use singly, in a column, or in a field.

- Length: 24 in or 30 in
- Light Orientation: direct/indirect
- Lamp: white, amber, red, green, blue or dynamic color-changing RGB LED
- Exterior/interior use

Interior



**L'ale®**

L'ale is designed for flanking doors, TVs and fireplaces or between windows/elevators.

- Length: 27 in
- Light Orientation: direct/indirect
- Lamp: dimmable and non-dimmable white LED
- Interior use

Interior



**Inflection®**

Inflection is designed for ballrooms, lobbies, atriums, foyers, conference rooms, and reception areas.

- Length: 23 in
- Light Orientation: indirect
- Lamp: dimmable and non-dimmable compact fluorescent white, green and blue LED
- Interior use

## Pendant and sconce colors and finishes

Finish Type	exterior/interior Powder Coat			interior (available in Gloss and Matte) Automotive Paint									interior Brushed	
	Silver (PS)	Metallic Silver (PM)	Bronze (PB)	Titanium (GT / MT)	Graphite (GG / MG)	Slate (GS / MS)	Copper (GC / MC)	Flame (GF / MF)	Lapis (GL / ML)	Ebony (GE / ME)	Arctic White (GA / MA)	Pearl White (GP / MP)	Neutral (AN)	Black (AB)
Aliante® Pendant	o	o	o	•	•	•	o	o	o	o	o	o	o	o
Aliante Interior Sconce	o	o	o	•	•	•	o	o	o	o	o	o	o	o
Aliante Exterior Sconce	•	•	o	x	x	x	x	x	x	x	x	x	x	x
Daedalus® Pendant	x	x	x	•	•	•	o	o	o	o	o	o	x	x
Inflection® Sconce	o	o	o	•	•	•	o	o	o	o	o	o	x	x
L'ale® Pendant	x	x	x	•	•	•	o	o	o	o	o	o	x	x
L'ale Sconce	o	o	o	•	•	•	o	o	o	o	o	o	x	x
Rotare® Pendant/Sconce	o	o	o	•	•	•	o	o	o	o	o	o	x	x
Silvus® Interior Sconce	•	•	o	o	o	o	o	o	o	o	o	o	x	x
Silvus Exterior Sconce	•	•	o	x	x	x	x	x	x	x	x	x	x	x

Automotive Paint <sup>2</sup>			Powder Coat
Standard colors	Special colors <sup>3</sup>	Brushed Anodized <sup>4</sup>	Available colors
Titanium	Arctic White	Flame	Silver
Slate	Pearl White	Copper	Metallic Silver
Graphite	Lapis	Ebony	Bronze (special color)

**Colors and Finishes Key**

- Standard color options
- o Special color options
- x Not available







## Overview — Recessed Lighting

### Interior



#### Finiré®

Finiré LED recessed lighting is designed for kitchens, great rooms, master bathrooms and theater rooms.

- Opening: 4 in
- 15W/22W
- Light orientation: downlight, wallwash, and adjustable
- Lamp: dimmable LED standard with Lutron® Hi-lume® A-Series LED driver
- Interior use
- Energy Star® qualified
- Title 24 compliant

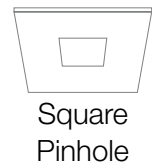
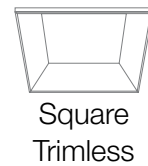
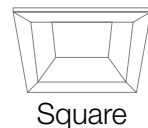
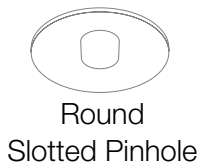
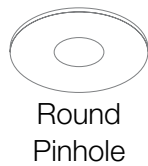
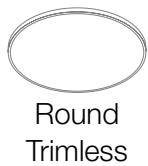


#### Project Versatility

- Insulation contact (IC) (15W only) and non-insulation contact (Non-IC) options are available.
- Easy maintenance
- Field-replaceable LED light module and driver. Change the color temperature and wattage after Finiré is installed without removing the fixture housing from the ceiling.
- Extended LED lamp and driver life
- Finiré contains a high-performance heat-sink for maximum LED life and the Lutron Hi-lume LED driver—both rated for 50,000 hours.
- Color Temperature
- Ranges from cool to warm, equivalent to the light output of 60–75 W incandescent lighting.

### Trim Finish and Color Options

	Matte White*	Matte Black	Soft Glow Metal	Clear Bright Alzak	Wheat Alzak	Oil-Rubbed Bronze
<b>Round*</b>	•	•	•	•	•	•
<b>Round Trimless</b>	•	•	•	•	•	•
<b>Round Pinhole</b>	•					
<b>Round Slotted Pinhole</b>	•					
<b>Square</b>	•	•	•			
<b>Square Trimless</b>	•	•				
<b>Square Pinhole</b>	•					

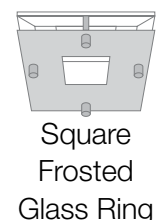
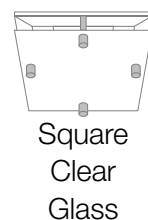
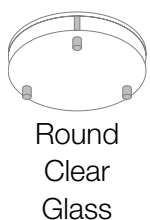


### Lens Options

	Micro Prism Solite™*	Frosted Glass	None
<b>Round</b>	•	•	•
<b>Square</b>	•	•	•

### Decorative Trim Options

	Clear Glass	Frosted Glass Ring	Tier Center Frosted Glass	Stainless Steel Bezel
<b>Round</b>	•	•	•	•
<b>Square</b>	•	•		



\* standard option

## **0–10V Control**

An analog lighting control protocol. A 0–10V control modifies a voltage between 0 and 10 volts DC to produce a varying intensity level. There are two existing 0–10V standards and they are not compatible with each other. The two 0–10V control types are 1) current source (theatrical dimming standard ESTA E1.3) and 2) current sink (dimming ballast standard IEC Standard 90626).

## **Advanced control function**

Additional product capabilities that provide users with features beyond the normal operation.

## **After-hours mode**

An energy saving mode that is used to turn lights off at the end of normal hours until the beginning of the next day.

## **Air-Gap Switch**

A safety feature in all Lutron controls that provides true “off” function by disconnecting power to a lighting load. The switch physically separates two contacts, resulting in an air gap between the contacts. The switch is visible and front accessible. Styles vary for each dimmer type.

## **ANSI**

American National Standards Institute.

## **Amperes/Amps (A)**

Electrical current unit of measurement.

## **Architectural lighting**

The general/ambient lighting that illuminates the interior ceiling, walls and architectural features.

## **ASHRAE**

ASHRAE stands for American Society of Heating, Refrigerating and Air-Conditioning Engineers.

## **Astronomic time clock**

A time scheduling device that is programmed for a specific geographic location to provide automatic timed event control of lights and/or shades. The programmed time is coordinated with seasonal variations of sunrise and sunset times that change throughout the year.

## **Audiovisual integration (AV)**

Interconnection of the lighting control, window shading and other systems with an AV control system. Provides for the operation from the AV control panels or touch screens the other connected systems. Common connection methods are contact closures, RS-232 and Ethernet TCP/IP.

## **Automatic shut off**

Ability of the lighting or other equipment in a building to be turned off without manual intervention. The common methods to provide shut-off are time switches and occupancy sensors. Automatic shut-off of all lighting in commercial buildings is a requirement in most energy codes.

## **Auxiliary repeater**

In RF control systems (RadioRA® or RadioRA 2) an additional device that extends the communication range of the system.

## **Backbox**

A metal or plastic enclosure housing one or more electrical devices. Standard USA 1 gang size is used for Lutron® domestic controls (H: 3 in x D: 2 ¾ in). Also known as switchbox or wallbox.

## **Backlight**

Internal illumination of a control device, panel or dimmer that creates a glow of the device. Allows for easy location of the device in a dark space and provide improved identification of elements of the control.

## **Backlit engraving**

Illumination of engraved lettering or symbols from behind. Allows improve visibility of the engraved elements in low light conditions.

## **BACnet/LonWorks BMS integration**

Connection of a Building Management System (BMS) to a lighting, shading or other system using industry standard communication protocols. BACnet and LonWorks are two of the commonly used protocols.

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).

**Ballast**

An electrical device required to operate all fluorescent and high intensity discharge (HID) lamps. Ballasts furnish the necessary voltage and current, for starting and operating the lamp(s). Internationally it is sometimes referred to as control gear.

**Ballast current (A)**

The total electrical current in Amperes (A) that is drawn by a ballast.

**Ballast factor**

A ballast's light output with respect to "reference ballast" light output. The reference ballast is a ballast that produces full light output as defined by the ANSI.

**Basic control functions**

The normal operation of a control used on a regular basis.

**Blackout fabric**

Shade systems material that completely blocks light. Combined with side channels, they provide a 100% complete light seal used in AV rooms, home theaters, and bedrooms.

Lutron® blackout fabrics offer versatility with standard or dual-sided options.

**BMS**

Building Management System.

**Burn-in**

A term used when dimming fluorescent lamps; refers to running them at full output for 100 hours. Also known as seasoning.

**Bus**

- 1) Denotes the power source
- 2) A control link

**California Energy Commission (CEC Title 24)**

California's primary energy policy and planning agency. The Commission responsibilities include: Forecasting future energy needs, promoting energy efficiency by setting the state's appliance and building efficiency standards and working with local government to enforce those standards, Supporting public interest energy research.

**CCC mark**

A mark that is placed on products that are certified to meet the required product safety standards in China.

**CE mark**

A mark placed on products that are declared to meet the applicable EU directives for a given product type. A CE marked product often meets the requirements of other countries that adhere to the IEC standards.

**Central processor**

For a large lighting control system, the major control and intelligence that is located within one processor that communicates to other system components located remotely.

**Circuit**

An electrical term that refers to one closed loop of subsystem of the building electrical system—individually protected and dedicated to a specific use: lighting, data processing, power, etc. It usually refers to a 20Amp circuit, which offers different wattage capacity at 120V, 220V or 277V operation.

**Clear Connect® RF Technology**

Lutron's advanced wireless RF communication protocol. Provides reliable communication between all Lutron® wireless products. It operates on a dedicated quiet frequency band, essentially free of interference. Using Lutron's own dedicated network ensures communication between system devices is reliably delivered, while the command structure ensures smooth, rapid system response.

**COM (Customer's own material)**

A shade systems acronym that stands for "Customer's Own Material" when motorized drapes are supplied. Customers occasionally submit a material for testing for a shade to ensure it performs properly and wears well.

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).

**Compact Fluorescent Lamp (CFL)**

A high efficiency lamp type that can be dimmed using a matching dimming ballast and dimmer. Standard lamp types are Twin Tube, Quad Tube, and Triple Tube. They are available in 2-pin and 4-pin versions. To operate, both require an external ballast located in the fixture; 2-pin versions are not dimmable, and 4-pin versions are dimmable when used with a dimming ballast. Screw-base CFLs are designed to replace incandescent lamps in existing fixtures, but most are not dimmable.

**Companion dimmer**

Allows for dimming from two or more wall locations when used with a compatible multi-location dimmer.

**Companion switch**

Allows for switching from two or more wall locations when used with a compatible multi-location switch.

**Contact closure**

A manual switch, relay, or transistor used as means to interface Lutron control systems to/from other control systems.

**Control interface**

A general term for devices that allow the interconnection of various system components. Typically provides the connection of third party systems to Lutron systems. Usually operate on the input/low-voltage side of the device and connect to the digital (QS) bus.

**Control zone**

A lighting fixture or group of fixtures that are controlled simultaneously. For example: two wall sconces wired together and controlled with one dimmer is a control zone. Window shades can also be grouped together as zones.

**Cornice**

A top treatment option that offers flexibility and permits outside mount for shading systems without the need for recess pockets. Works with roller shades, roman shades and drapery systems.

**Coupled shades**

Shades systems' term for one electronic drive unit mechanically connected to control one or more adjacent roller shade panels.

**Current**

The electrical rate of flow, expressed in Amperes, similar to the water flow rate in a pipe (gal/min).

**Daylighting**

Lighting strategies that use the sun and sky as a diffuse light source, while shielding direct sunlight. Modern "Sustainable/Green" designs use Daylighting PhotoSensors that control dimmers/dimming ballasts to reduce electric lighting loads.

**Daylight sensor**

A device that senses daylight providing feedback for automatic dimming or switching of electrical lights, based upon changes of available daylight.

**Derate**

To reduce the current or power capacity (lighting load) that a control can reliably handle. Lutron controls must be derated when side sections of the yoke or fin have been removed from the unit (control) for ganging. The industry also derates other items such as circuit breakers.

**Digital fade dimmers**

A Lutron dimmer that has a gradual fade-to-off/fade-to-on feature when the switch is pressed, as compared to the more traditional slide-to-off or rotary dimmers with a knob that turns on/off. They include LED indicator lights show the relative light level in the room. Only available in certain styles.

**Dimmed hot**

Used in reference to the wiring connection of Lutron 3-wire dimming ballasts. It is the wire connection that provides a variable line voltage signal to the ballast. This signal adjusts the output level of the ballast. The other connections to the ballast are *Neutral* (N) and *Switched Hot* (SH).

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).

**Dimmer**

An electronic control device used to vary the intensity of light output from a lamp source. Electronic dimmers provide energy savings as it reduces light level and power for any lamp type. It also provides longer lamp life for incandescent, halogen, low-voltage sources, e.g. 10% dimming doubles the expected lamp life.

**Dimming ballast**

An alternate device used to obtain the conditions (voltage, current and waveform) for starting and operating the lamp(s) while providing variable light output, i.e. dimming fluorescent lamp source(s); it must be matched to the lamp type, voltage and quantity. It is available, with less capability, for HID sources.

**Dimming module**

A subassembly that is installed into an electrical panel (dimming panel). The module provides one or more dimmer outputs. Modules are either a specific defined dimmer type or are programmable to be one of a selection of dimmer types. The electrical panels will contain one or more modules and vary in size depending on project requirements.

**Dimming panel**

An electrical cabinet containing three or more dimmers used to control multiple lighting zones. It is generally mounted in an electrical closet or equipment room.

**Dimming range**

Relative minimum and maximum light output achievable by a control or ballast, usually expressed as a percentage of measured light output.

**Dim-out fabric**

Dim-out fabric creates privacy from the outside while still allowing light to penetrate through the fabric. Dim-out fabrics by Lutron® are offered in two categories—translucent and privacy. Translucent fabrics reduce the view to shapes and shadows, while privacy fabrics showcase no view—only a soft glow of light.

**DMX integration**

Communicating with systems and devices that operate using the DMX-512 protocol. There are two aspects to integrating with DMX equipment. First sending DMX-512 commands and second receiving DMX commands.

**Sending DMX:** a Lutron® system generates DMX commands and communicates them over a bus to devices that operate using DMX. See DMX-512-A.

**Receiving DMX:** Lutron dimming systems accept DMX commands from third party control systems (i.e. theatrical stageboards). Common for applications are where there is both architectural lighting and theatrical lighting that needs to be controlled from the same control system.

**Double-tap**

A feature of some Lutron products in which two fast presses (in quick succession) bring lights on to full intensity, temporarily overriding any preset light level.

**Driver**

Auxiliary device(s) needed to operate and vary the intensity of light output from LED lamp source(s) by regulating the voltage and current powering the source.

**Dual device**

A combination dimmer, switch, timer or fan control that offers control for more than one group of lights or fans mounted in a one-gang electrical backbox.

**Dual technology**

In reference to occupancy sensors, the sensor uses combines two different sensing technologies. Typically IR sensing and ultrasonic sensing are utilized together.

**Efficiency**

See Luminous efficacy

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).



**Electronic low-voltage (ELV)**

A low-voltage lighting source that uses a solid-state electronic transformer to step down the incoming line voltage to the voltage required by the lamp (typically 12V). Some ELV transformers are not dimmable and some are dimmable using reverse phase control.

Track and recessed down lights can be electronic low-voltage or magnetic low-voltage. Dimmable ELV transformers should be used with an electronic low-voltage dimmer only.

**Electronic Switch**

Uses semiconductor device(s) to turn on and off the current flow into the load. These switches also include a mechanical disconnect (air-gap switch) to manually disconnect power for safety when replacing lamps. They typically need to be derated when ganged. Electronic switches can only be used with the load type they are approved to operate and are listed under UL1472 or UL508.

**Electrostatic Discharge Protection**

Protects Lutron products from static discharges (static shocks) common in dry climates, up to 16 kiloVolts, without damage or loss of memory.

**ELVI (Electronic low-voltage interface)**

An interface unit that allows standard phase control dimmers to control electronic low-voltage (ELV) transformers.

**Emergency lighting**

When the normal power supply fails, emergency lighting is the illumination that automatically lights the path towards the exit location(s). It may also serve to satisfy life safety and security lighting requirements.

**Fade delay**

The time interval between the selection of a new light intensity for a particular lighting zone and the beginning of that zone's change to the new level.

**Fade override**

The ability to temporarily or permanently disable fade times or delays.

**Fade time**

The total time it takes a dimmer to change the lighting from one preset level to another. The time can vary from 0 seconds to 60 minutes.

**Fan-motor Hum**

The noise made by a fan motor at lower speeds when controlling the fan using fully variable technology. Lutron has quiet 3-speed and 7-speed controls that do not cause the fan motor to hum.

**FASS™ (Front Accessible Service Switch)**

An air-gap switch that can be activated without removing the wallplate of a control. Power is completely removed from the device's load circuit by the air-gap switch.

**Fin**

The raised vertical metal dividers or side sections on certain Lutron dimmers—these serve as a “heat sink” to dissipate heat.

**Fins broken (FB)**

Removing a portion of the fins (heat sink) to fit dimmers into a standard backbox, using standard size wallplates. The dimmer's wattage capacity must be derated. Also see Ganging and Derating, page 179 when ganging dimmers.

**Fixture**

Common term for a luminaire.

**Flap and hanger**

Shading Systems' two-piece structure designed to conceal the roller system in a recessed ceiling installation.

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).

**Fluorescent lamp**

A low intensity “discharge” lamp that produces light when electric current passes through low-pressure mercury gas. The resulting arc produces ultraviolet energy, which causes the phosphor coating on the inside of the glass envelope and produce light. Fluorescent lamps require a ballast to start the lamp and maintain the light output. Fluorescent dimming ballasts are available for most fluorescent lamps to be dimmed down to as low as 1% of the lamps maximum, measured light output. The dimming ballast reduces the current through the lamp.

**Ganging**

The act of mounting one or more dimmers, switches, receptacles or controls side-by-side in a series of connected (ganged) back boxes.

**Ground Fault Circuit Interrupter (GFCI)**

A safety device that monitors current flow, and quickly turns off a circuit when the current returning on the neutral wire is less than what is going out on the hot wire (difference  $\geq 6$  mA). It is intended to provide protection from potentially dangerous ground-fault currents.

**Halogen lamp**

A higher efficiency type of incandescent lamp in which halogen is added to the filling gas and has a quartz glass inner envelope. These additions allow the lamp to operate more efficiently at a higher color temperature. (Also called quartz halogen or tungsten halogen).

**Hand-held programmer**

Hand-held device used to assist in programming a lighting control system.

**HVAC**

Heating, Ventilating, and Air-Conditioning systems designed by mechanical engineers.

**IECC**

International Energy Conservation Code— a U.S. cross national energy codes standard.

**IEEE**

Institute of Electrical and Electronics Engineers.

**IES/NA**

Illuminating Engineering Society of North America.

**Incandescent lamp**

An electric lamp in which a filament gives off light when heated by an electric current. Standard light bulbs are incandescent line voltage (120 Volt). They offer excellent color rendering and are simple to replace. Newer types of incandescent bulbs include halogen and tungsten-halogen (quartz).

**Infrared (IR)**

Signals in the frequency range just below visible light. IR signals are often used for remote controls for televisions and other audio video products. Many products use Lutron® IR signals for hand-held remote control of lighting and/or shades.

**Infrared (IR) receiver**

A component that receives signals from an IR transmitter. Requires line-of-sight for functionality. Lutron products with IR receivers include dimmers, control units and shading products.

**Infrared (IR) transmitter**

A component that transmits signals to an IR receiver. Requires line-of-sight for functionality. Often referred to as a “hand-held” remote control device.

**Inmetro mark**

A mark that is placed on products that are certified to meet required product safety standards in Brazil.

**Interface**

- A) A power-handling device that allows a control to dim or switch additional lighting load types.
- B) A low-voltage device that allows equipment such as telephone interfaces, astronomical time clocks, car visor controls, photocells, shades, screens, security systems, and other types of controls to work in conjunction with various Lutron controls and systems.

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).



**Lamp debuzzing coil**

An inductor connected between the control and the load to minimize lamp or transformer buzz and radio frequency interference.

**Lamp life**

Average rated time period of the operation of a lamp before it fails to produce light. For incandescent and fluorescent lamps, manufacturers define this as the point in time when 50% of the lamps have failed. LED lamp life is defined as when the light output from the LED falls below 70% of its maximum lumen output.

**LED (Light emitting diode)**

A solid-state light source that is used in multiple arrays of “white” or RGB “red/blue/green.” LED arrays operate with a driver, in a fixture, and a control. These components must all be compatible in order to ensure that their proper system operation is maintained.

LEDs are a long-life light source. They also produce very little heat on the object being illuminated, but require heat sinks to keep the LEDs at proper operating temperature. More detailed information is available at [www.lutron.com/led](http://www.lutron.com/led).

**LED driver**

Auxiliary device(s) needed to operate LED lamps. They operate by regulating the voltage and current powering the LED source. There are both dimming and non-dimming types.

**LED lamp**

A collection of LEDs in a single housing used as an alternative to an incandescent lamp.

**Line voltage**

The voltage between the lines of a supplying power system. Usually 120VAC in U.S., 240VAC in the U.K. 100V in Japan. Also see Low-voltage.

**Load type**

An industrial term for a category of lighting used in the selection of dimming devices that must “match” the load type.

**Load type optimization**

Each dimmer is designed for the specific load type it is meant to control. This optimizes performance and reliability in the most demanding applications.

**Locator light**

A small indicator light on some dimmers and accessory controls that remains illuminated to help a user locate the control in a dark space.

**Low-voltage (LV)**

Lighting fixtures that require a transformer for operation to step voltage down from line supply (120, 220 or 277 V) to 6 Volt, 12 Volt or 24 Volts. The bulbs contain a smaller filament than incandescent bulbs for higher efficiency and more precise beam control. These bulbs have a long life expectancy and bright white light. Low-voltage lighting may use magnetic or electronic transformers. Also see Line voltage.

**Luminous efficacy**

The ratio of light emitted to the power required for a light source or luminaire. Commonly used to measure energy efficiency, it is the lumens per watt from a light source (amount of light per watt of power).

**Magnetic low-voltage (MLV)**

A lighting source that uses a magnetic transformer to step down the incoming line voltage to that required by the lamp (typically 12 V). Recessed lights are most often magnetic low-voltage. Magnetic low-voltage lights tend to be larger and heavier than electronic low-voltage.

**Mechanical (general purpose) switch**

An on/off device that uses a set of metal contacts, which open or spread apart to turn off a load and make contact or come together to turn the load on. These devices sometimes have a nightlight circuit across these contacts. These nightlights may either be LED or neon indicator. Mechanical switches typically do not need to be derated when ganged. This product is listed under UL20, which is the standard for general-purpose snap switches.

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).

**Microprocessor**

A microprocessor incorporates most or all of the functions of a central processing unit (CPU) on a single integrated circuit (IC).

**Multi-gang wallplate (faceplate)**

A one-piece wallplate that covers multiple controls without any visible screws, seams, or hardware. It is available as a standard product for multiple size openings, in many standard colors, up to 6-gang sizes.

**Multi-location dimming**

A technology that allows full-range dimming from all locations in 3-way (2 location) and 4-way (multi-location) circuits. A multi-location dimmer can be used with companion dimmers or accessory dimmers for dimming from two or more locations.

**Neon/Cold cathode (NCC)**

A tubular shaped lamp that is filled primarily with neon or argon gas. A large voltage is put across the lamp, which creates an arc across the tube. This arc creates ultraviolet light. The phosphor coating on the tube then changes the ultraviolet light to visible light. Dimming controls must be matched to transformer type.

**Non-Dimmed Load (Switched Load)**

A load that can only be turned on/off and not set at any intermediate lighting level or motor speed. This term can refer to a lighting load, a fan, or a motor load.

**Occupancy/vacancy sensor**

A device that detects the presence/absence of people in a space and provides automatic switching or dimming of lighting. Their primary purpose is to automatically turn lighting Off when an area is not occupied to ensure energy savings. Both types of sensors turn lighting Off after a preset period of time when they no longer detect a person. An occupancy sensor will also turn lighting On automatically when it detects a person (Auto On/Auto Off). Also see Vacancy sensor.

**Openness factor**

Openness factor is a percentage indicating how much of a fabric's weave is open to permit light and views to pass into a space. Percentages typically range between 1%, 3%, 5% and 10%, where 1% allows less light transmittance and 10% offers greater light transmittance.

**Override**

A temporary setting that does not affect a system's programming.

**Partitioning**

A room that is divisible by moveable walls is called a partitioned room. Partitioning is when a lighting control system can adapt its controls according to how that room is currently partitioned.

**PELV**

Protective extra low-voltage. Common usage IEC PELV.

**Pendant lighting**

Lighting fixtures suspended from the ceiling surface via pipe, chain or cable—requires power wires to be considered in selection/design of fixture (derives from “hanging ornament”).

**Phase control**

A form of pulse width modulation (PWM) for power limiting, applied to AC voltages. It works by using a solid-state switch, such as a triac, to only allow current to flow for part of the time.

**Photo Sensor**

Another name for a daylight sensor.

**Pinch pleat**

Refers to a style of drape characterized by pleats gathered at the top of the drapery. Also see Ripplefold.

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).

## **Pocket**

- A) Ceiling recess in which a shade is installed. Hardware is hidden above the ceiling, providing a clean look
- B) Metal casing provided by Lutron® used when shades are installed in a ceiling recess.

## **Power failure memory**

After a power failure, lighting and shading is restored to the same levels set prior to the power-failure. This minimizes the inconvenience of power service interruptions. Lighting and shading does not shut off or go to a preprogrammed level.

## **Preset**

Predetermined light intensity or shading level for one or more lighting zones that can be recalled by pressing a single button.

## **Preset dimmers**

Dimmers that have a separate On/Off switch that allows the user to turn lights On to a preset light level.

## **Primary controls**

The main dimming control required for any dimmer or system to handle the lighting load. The primary control(s) can be used with companion dimmers, accessory dimmers or accessory controls, however, these are not required for the primary controls to function properly.

## **Privacy fabric**

Refers to a type of fabric that allows for light transmission, but no view. Privacy fabric is often used in residential applications.

## **Programming mode**

An operating state that allows the user to set up or modify a system configuration (also called setup mode).

## **QED**

Acronym that stands for the Lutron® “Quiet Electronic Drive” used with Lutron shades and drapes. This Lutron drive technology is rated at less than 44 dBA. 44 decibels is comparable to rustling leaves.

## **Repeater**

Communication backbone for a Lutron Wireless system; it ensures robust communication.

## **Radio frequency (RF)**

The emission of electromagnetic waves, at a specific frequency that are able to pass through most materials. This provides a method of sending and receiving wireless communication signals between system components.

## **Radio frequency interference (RFI)**

Potentially disruptive set of radio frequency emissions caused by electronic devices.

## **RFI Filter**

An electrical circuit that is part of all Lutron dimmers. It is intended to reduce radio frequency interference (RFI) and lamp buzz.

## **Ripplefold**

Refers to a style of drape characterized by an “S” shaped wave of fabric at the drapery track. Ripplefold does not gather with a pleat, see pinch pleat for further information.

## **Roller shades**

Shades that operate by rolling fabric around a tube. Roller shades may utilize sheer, dim-out, or blackout fabrics.

## **Scene**

The lighting effect achieved by adjusting one or more zones of lighting to the desired intensity. Also see Preset.

## **Screw-base Compact Fluorescent Lighting (CFL)**

Screw-in CFLs that are rated for dimming will typically only dim down to about 10% to 30% of the lamp’s light output. For more information on dimming these lamps please visit [www.lutron.com/dimcflled](http://www.lutron.com/dimcflled).

## **Screw-base LED Lighting**

Screw-in LEDs that are rated for dimming will typically only dim down to about 5% to 15% of the lamp’s light output. For more information on dimming these bulbs please visit [www.lutron.com/dimcflled](http://www.lutron.com/dimcflled).

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).

**Sensor**

A device that detects motion, heat, partition status, etc. that allows for automatic control of dimming and switching systems. (See Occupancy, Vacancy and Daylight sensors).

**Sequencing**

The mode during which preset lighting scenes change in a designated order using fade times that have been programmed.

**Sheer fabric**

Sheer fabrics reduce solar heat gain and UV penetration while maintaining views to the outside. Lutron® sheer fabrics are offered in SheerShade®, designer, and dual-sided sheer fabric options to accommodate the needs of any space. SheerShade fabrics are measured by “openness factor” which describes the ration of open space to fabric yarn in a weave.

**Sill angle**

A two-sided piece of metal designed to work with shades in order to complete a blackout design by stopping light leaks below the shade.

**Single-pole switch/dimmer**

A switch or dimmer that controls a lighting zone from one location only.

**Single-gang backbox**

A device installed in a wall intended to house a single switch or dimmer.

**Slider**

The linear actuator on the front of a dimmer that adjusts the light level.

**Softswitch**

A Lutron patented one million cycle switching solution, which limits in-rush current at turn-on.

**Solar radiation**

Radiant energy emitted by the sun. Solar shades work to reduce this energy.

**Solar reflectance**

Percentage of solar radiation reflected back out by the fabric.



**Solar transmittance**

Percentage of solar radiation that passes through the fabric.

**Solid-state**

A product or system that utilizes a semiconductor.

**Specification series**

A class of products specifically designed to meet or exceed the rigorous demands of heavy-use/commercial applications. Dimmer(s) that meet this specification are comprised of heavy-duty components for surge protection and long product life, electrostatic discharge protection and voltage compensation. They include features such as power failure memory, Square Law Dimming, Superior RFI suppression, and are   Listed.

**Specifications**

Specifications define the qualitative requirement for products, materials, workmanship, and administrative requirements upon which the project is based. Specifications provide detailed requirement for the physical properties, chemical constituents, performance requirements, and standards of workmanship associated with the manufacture and installation of materials, equipment, and components.

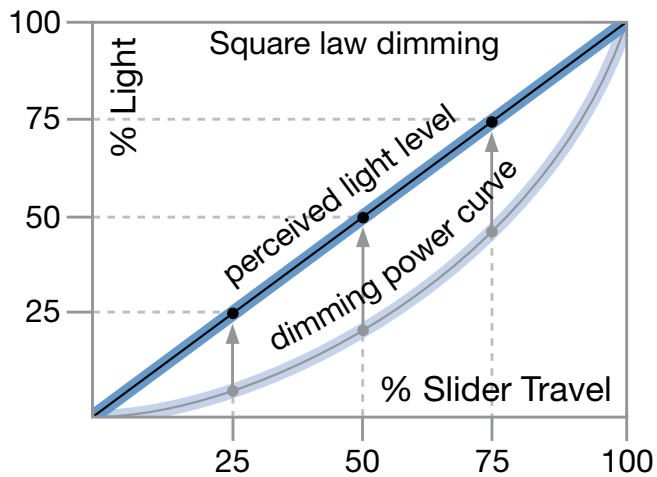
**Square law dimming**

A dimmer is calibrated so that the linear slider position or LED indicator column provides a representation of the light level perceived by the user. For example, if the slider is set at the halfway point or one-half or the column of LEDs is lit the light level appears to be at 50%. Dimmers adjusted in this way will also use the full range of the slider or LED indicators without any “dead” travel at the top or bottom slide position or indicator LED.

For more detailed glossary of terms, go to [www.lutron.com/glossaryofterms](http://www.lutron.com/glossaryofterms).

### Surge Protection

Circuitry that protects Lutron products against a near lightning strike surge of 6000V, 3000A, as recommended by the ANSI/IEEE standard c62.41.



### Surge suppression

Circuitry that reduces the potential for damage caused by lightning strikes and other power spikes.

### Switching system

A switching system is designed for a facility to turn lighting zones on and off on a schedule or by responding to multiple control devices or input locations.

### Tap switch

A style of Lutron dimmer with a flat mechanical button that, when pressed, allows the lights to turn on to a desired preset level and to off. Some models are available with a small slider or rocker that allows the user to adjust the lights to suit any activity.

### Time clock

Allows various Lutron® systems to control lights based on time of day. Also see Astronomical time clock.

### Toggle (On/Off)

A switch or keypad that alternates between 2 states (typically on/off) with each touch.

### Transformer

A device that changes line voltage (120V or 277V) to 24V, 12V or 6V needed for low voltage lighting sources. It can be integral to the lighting fixture for low voltage lamps (e.g., MR-16 or Par 36). Standalone (remote) transformers can supply multiple lamps or luminaires (e.g., for a low voltage lighting strip in a ceiling cove). Transformers can be electronic or magnetic, and dimmers must be matched to either type.

### Triac

The electronic component responsible for the dimming function in many Lutron dimmers. This component reduces the power to a light by switching on/off very rapidly (120 times per second). Lutron products use heavy-duty-rated triacs that are tested to last over 10 years.

### Tungsten-Halogen Lamp

See halogen lamp.

### UL label (UL Listed)

A product adhering to the standards of Underwriters Laboratories, a company nationally recognized for product safety testing (the product is not “approved” nor tested for performance). Underwriters Laboratories was initially created by insurance companies to reduce fire risks. In Canada, CSA is the listing required; in other countries, other listings are required. All Lutron products are UL listed.

### UL standard

A document published by UL which details the requirements that must be met by a specific product type in order to be listed or recognized.

### Vacancy sensor

A device that detects the absence of people in a space and provides automatic switching or dimming of lighting. The primary purpose is to automatically turn lighting Off when an area is not occupied to ensure energy savings. A vacancy sensor relies on a person operating a manual switch to turn lighting On (Manual On/Auto Off). Also see Occupancy sensor.

**Voltage**

The electrical potential, measured in Volts (V), supplied by an electrical system. In the US the standard voltage systems operate at a 60Hz frequency. In residential applications the standard service is referred to as 120/240V, commonly known as a single-phase system. Commercial buildings have two common service types; in smaller buildings it is 120V/208V known as a 3-phase service. The interior lighting in these applications generally uses 120V feeds. In larger buildings the primary service can be 277/480V, which also known as 3-phase service. The interior lighting in these applications generally uses 277V feeds. To learn more about voltage supply go to [www.lutron.com](http://www.lutron.com).

**Voltage Compensation**

Special circuitry that maintains consistent power delivered to the lamp, in the event of incoming line-voltage variations.

**Wallbox**

A Lutron term that refers to a metal or plastic enclosure housing one or more electrical devices. Standard USA size is used for Lutron® domestic controls (H: 3in x D: 2.75in).

**Wallplate**

A decorative component that covers a lighting control by attaching to the front of the unit. Lutron multi-gang wallplates have no visible screws or seams, and are available in up to gangs of 6 for certain wallplate styles.

**Wallstation**

Typically, a Class 2 (low-voltage) control that selects scenes, raises/lowers zones, or actuates other functions such as partitions, sequences, etc. Also known as Keypad.

**Watt (W)**

Basic unit of measurement for electrical power.

**Wire connector**

Capping device that provides and insulated mechanical and electrical connection for electrical wiring. Do not use wire nuts.

**Zone**

A lighting fixture or group of fixtures that are controlled simultaneously. An example would be 2 wall sconces wired together with one dimmer. Lutron window shades can also be grouped together as zones.

**Zone capacity**

The maximum capacity limit of watts/VA per zone for an individual control, e.g. GRAFIK Eye® 3000 product line has a limit of 800 watts per zone.

**Zone capture**

A programming shortcut that adds a particular circuit to a specific zone.

**Zone lighting**

In dimming, lights that are operated together. See Control Zone.



## Africa

Algeria	230 V (CE)	Malawi	230V	China, People's Republic of	220V
Angola	220V	Mali	220V	East Timor	220V
Benin	220V	Mauritania	220V	Hong Kong	220V
Botswana	230V	Mauritius	230V	India	230V
Burkina Faso	220V	Morocco	127/220V	Indonesia	127/230V
Burundi	220V	Mozambique	220V	Iraq	230V
Cameroon	220V	Namibia	220V	Israel	220V
Canary Islands	220V	Niger	220V	Japan	100/200V
Cape Verde	220V	Nigeria	240V	Jordan	230V
Central African Republic	220V	Rwanda	230V	Kazakhstan	220V
Chad	220V	Réunion Island	220V	Kuwait	240V
Comoros	220V	São Tomé and Príncipe	220V	Kyrgyzstan	220V
Congo, Dem. Rep. of (former Zaire)	220V	Senegal	230V	Laos	230V
Congo, People's Rep. of	230V	Seychelles	240V	Lebanon	110/220V
Cote d'Ivoire	220V	Sierra Leone	230V	Macau	220V
Djibouti	220V	Somalia	220V	Malaysia	240V
Egypt	220V	South Africa	220/230V	Maldives	230V
Equatorial Guinea	220V	Swaziland	230V	Mongolia	220V
Eritrea	230V	Tanzania	230V	Myanmar (formerly Burma)	230V
Ethiopia	220V	Togo	220V	Nepal	230V
Gabon	220V	Tunisia	230V	Oman	240V
Gambia	230V	Uganda	240V	Pakistan	220V
Ghana	230V	Zambia	230V	Philippines	220V
Guinea	220V	Zimbabwe	220V	Qatar <sup>1</sup>	240V
Guinea-Bissau	220V			Russia	220V
Ivory Coast (see Cote d'Ivoire)				Saudi Arabia <sup>1</sup>	127*/220V
Kenya	240V			Singapore	230V (CE)
Lesotho	220V			South Korea	220V
Liberia	120V			Sri Lanka	230V
Libya	127V			Syria	220V
Madagascar	220V			Tajikistan	220V
				Taiwan	110V

## Asia

\*Currently available, but soon to be phased out.

<sup>1</sup>Scheduled to require products with CE marking in the future.

Thailand	220 V (CE)	Gibraltar	240V	Spain	230V (CE)
Turkey	230 V (CE)	Great Britain		Sweden	230V (CE)
Turkmenistan	220V	(see United Kingdom)		Switzerland	230V (CE)
United Arab Emirates	220V	Greece	240V (CE)	Ukraine	220V
Uzbekistan	220V	Hungary	230V (CE)	United Kingdom	230V (CE)
Vietnam	127/220V	Iceland	230V (CE)	Vatican City	230V (CE)
Yemen, Rep. of	220/230V	Ireland (Eire)	230V (CE)	Wales	
		Isle of Man	240V	(see United Kingdom)	

## Europe

Albania	220V	Italy	230V (CE)
Andorra	230V	Latvia	220V (CE)
Armenia	220V	Liechtenstein	230V (CE)
Austria	230V (CE)	Lithuania	230V (CE)
Azerbaijan	220V	Luxembourg	240V (CE)
Azores	220V	Macedonia (FYROM)	230V (CE)
Balearic Islands	220V	Madeira	220V
Belarus	220V	Malta	240V (CE)
Belgium	230V (CE)	Moldova	220/240V
Bosnia	220V	Monaco	127/220V
Bulgaria	230V (CE)	Montenegro	220V
Channel Islands	230V	Netherlands	230V (CE)
Croatia	230V (CE)	Netherlands Antilles	127/220V
Cyprus	240V (CE)	Norway	230V (CE)
Czech Republic	230V (CE)	Northern Ireland (see United Kingdom)	
Denmark	230V (CE)	Poland	230V (CE)
England (see United Kingdom)		Portugal	230V (CE)
Estonia	230V (CE)	Romania	230V (CE)
Faroe Islands	220V	San Marino	230V
Finland	230V (CE)	Scotland (see United Kingdom)	
France	230V (CE)	Serbia	220V
Georgia	220V	Slovak Republic	230V (CE)
Germany	230V (CE)	Slovenia	230V (CE)

## North America/ Central America/ Caribbean







Anguilla	110V
Antigua	230V
Aruba	127V
Bahamas	120V
Barbados	115V
Belize	110/220V
Bermuda	120V
Canada	120/347V
Cayman Islands	120V
Costa Rica	120V
Dominica	230V
Dominican Republic	120/240V
El Salvador	115V
Greenland	220V
Grenada (Windward Is.)	230V
Guadeloupe	230V
Guatemala	120V
Haiti	110V
Honduras	110V
Jamaica	110V
Martinique	220V



		Oceania	South America		
Mexico	127V	American Samoa	120V	Argentina	220V
Montserrat (Leeward Is.)	230V	Australia	240V	Bolivia	220/230V
Nicaragua	120V	Cook Islands	240V	Brazil	127/220V
Panama	110/120V	Fiji	240V	Chile	220V
Puerto Rico	120/277V	Guam	110V	Colombia	110V
St. Kitts and Nevis (Leeward Is.)	230V	Kiribati	240V	Ecuador	120–127V
St. Lucia (Windward Is.)	240V	Marshall Islands	110V	Falkland Islands	240V
St. Vincent and the Grenadines (Windward Is.)	230V	Micronesia (Federal States of)	120V	French Guiana	220V
Trinidad & Tobago	115V	Nauru	240V	Guyana	240V
United States of America	120/277V	New Caledonia	220V	Paraguay	220V
Virgin Islands (British and U.S.)	115V	New Zealand	230V (CE)	Peru	220V
		Palau	110–120V	Suriname	127V
		Palmyra Atoll	120V	Uruguay	220V
		Papua New Guinea	240V	Venezuela	120V
		Samoa	230V		
		Solomon Islands	220V	Contact your Lutron® representative for countries not listed.	
		Tahiti	110/220V		
		Tonga	240V		
		Tuvalu	220/240V		
		Vanuatu	230V		








Primary source: [www.kropla.com/electric2.htm](http://www.kropla.com/electric2.htm)

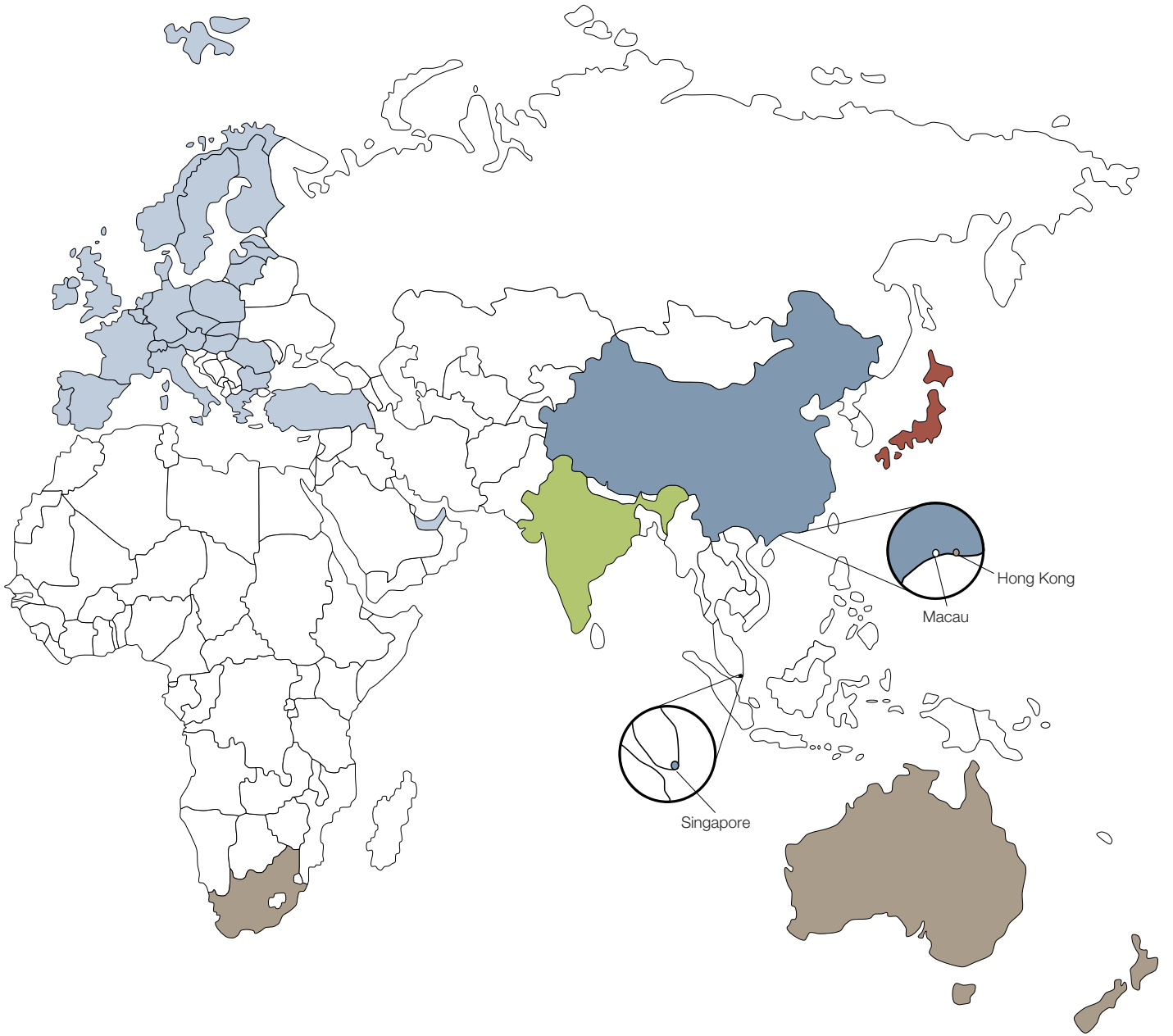
# Appendix | International radio frequencies

	 <b>434 MHz</b> (431–437 MHz)	 <b>Limited 434 MHz</b> (433.05–434.79 MHz)	 <b>Limited 315 MHz</b> (312.3–314.8 MHz)	 <b>865 MHz</b> (865.5–866.5 MHz)	 <b>868 MHz</b> (868–870 MHz)	 <b>Limited 868 MHz</b> (868.0–868.6 MHz)
USA	●					
Canada	●					
Mexico	●					
Brazil	●					
Chile	●					
Panama	●					
Costa Rica	●					
Ecuador	●					
Dominican Republic	●					
El Salvador	●					
Peru	●					
Trinidad and Tobago	●					
Bermuda	●					
Venezuela	●					
Columbia	●					
Japan			●			
Argentina		●				
European Economic Area (EEA)					●	
Saudi Arabia					●	
UAE					●	
India				●		
Hong Kong		●				
China						●
Singapore						●

Not all products are certified in every country.











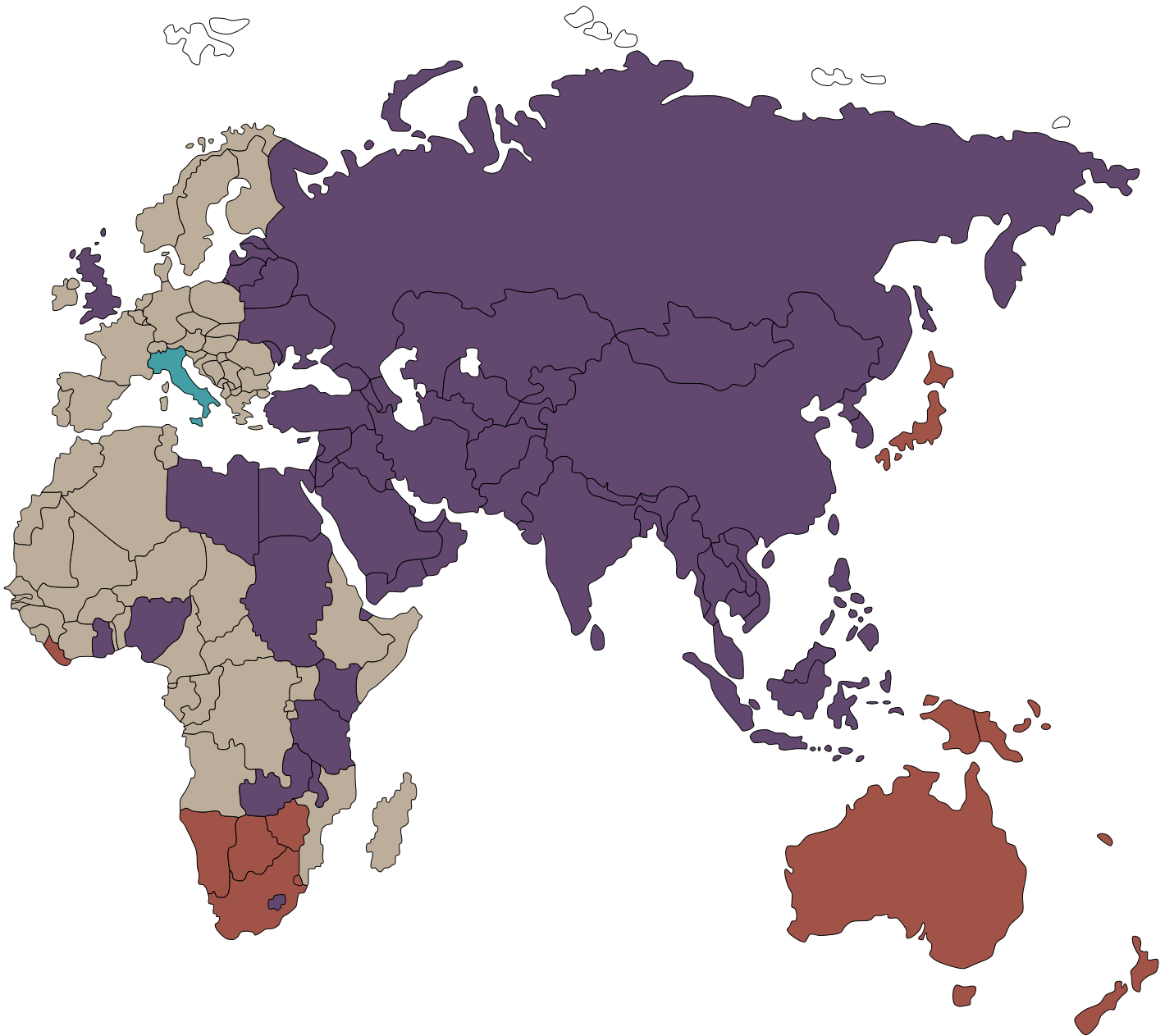
RF frequencies	
	434 MHz
	434 MHz Limited Channel
	315 MHz
	865 MHz
	868 MHz
	868 MHz Limited Channel
	No RF product approvals





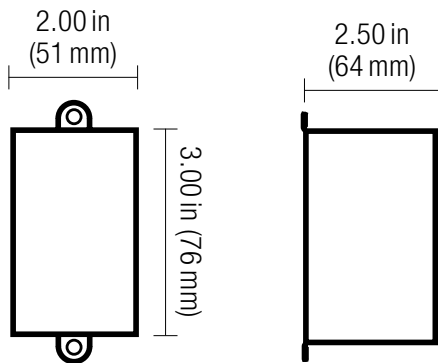
**Backbox styles**

-  U.S. style backbox 
-  Round backbox (EBB-15-RD) 
-  Square backbox (EBB-15-SQ) 
-  Italian style backbox 



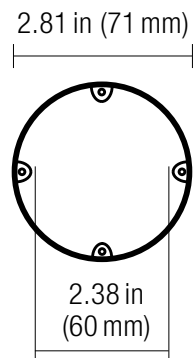
## Backbox dimensions

### U.S. style backbox



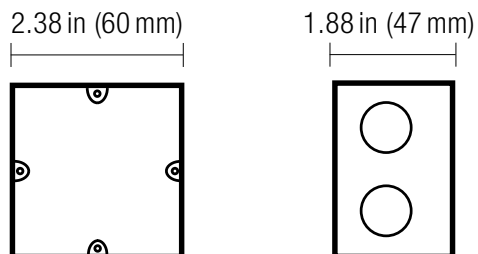
1-gang box  
 Width: 2.00 in (51 mm)  
 Height: 3.00 in (76 mm)  
 Depth: 2.50 in (64 mm)

### Round backbox (EBB-15-RD)



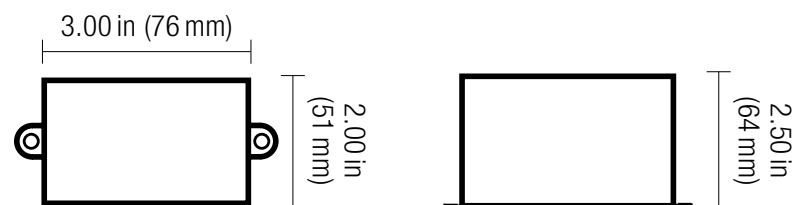
1-gang box  
 Width: 2.81 in (71 mm)  
 Height: 2.81 in (71 mm)  
 Depth: 2.38 in (60 mm)

### Square backbox (EBB-15-SQ)



1-gang box  
 Width: 2.38 in (60 mm)  
 Height: 2.38 in (60 mm)  
 Depth: 1.88 in (47 mm)

### Italian style backbox



1-gang box  
 Width: 3.00 in (76 mm)  
 Height: 2.00 in (51 mm)  
 Depth: 2.50 in (64 mm)

## Power Draw Units (PDUs) on the QS Link

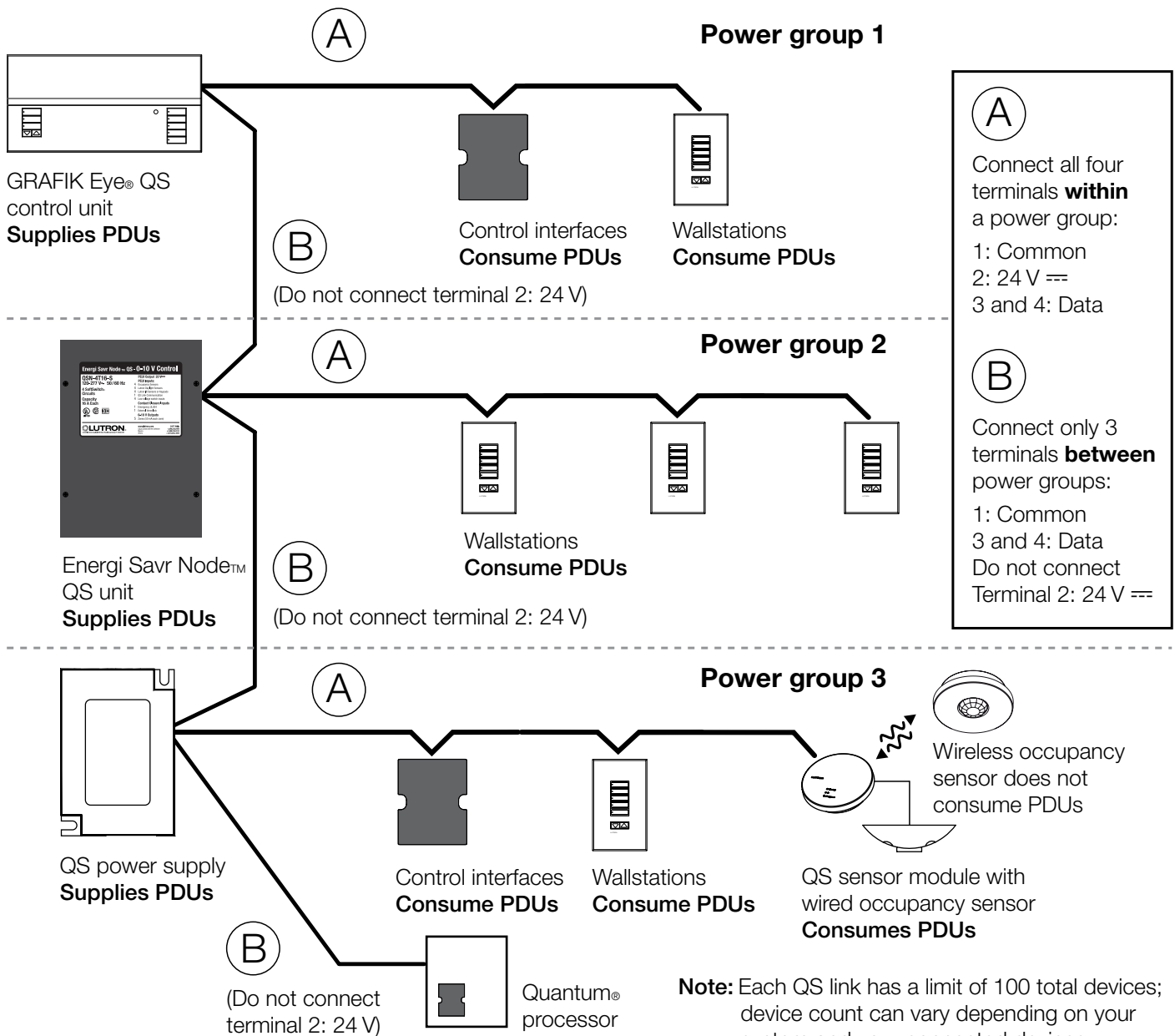
On the QS link, there are devices that supply power and devices that consume power. Each device has a specific number of Power Draw Units (PDUs) it either supplies or consumes.

A Power Group consists of one device that supplies power and one or more devices that consume power; each Power Group may have only one power-supplying device.

Within Power Groups on the QS link, connect all four terminals (1, 2, 3, and 4), shown by the letter A in the diagram. Between devices on the QS link that supply power, connect only terminals 1, 3, and 4 (NOT terminal 2), shown by the letter B on the diagram.

Wiring can be T-tapped or daisy-chained.

### Power Group Wiring Example





### QS Power Draw Unit (PDU) information\*

On the QS link, there are devices that supply power and devices that consume power. Each device has a specific number of Power Draw Units (PDUs) it either supplies or consumes.

QS device	Product description	Model number	Zone count	Device count	PDUs supplied	PDUs consumed	
<b>GRAFIK Eye® QS</b>	3-zone phase control	QSGRJ-3P	3	1	3	0	
	4-zone phase control	QSGRJ-4P	4				
	6-zone phase control	QSGRJ-6P	6				
	6-zone EcoSystem®	QSGRJ-6E	6				
	8-zone EcoSystem	QSGRJ-8E	8				
	16-zone EcoSystem	QSGRJ-16E	16		2		
	6-zone DALI with KNX	QSGRK-6D-KNX	6				
	8-zone DALI with KNX	QSGRK-8D-KNX	8				
	16-zone DALI with KNX	QSGRK-16D-KNX	16				
	6-zone DALI	QSGRK-6D	6				3
	8-zone DALI	QSGRK-8D	8				
16-zone DALI	QSGRK-16D	16					
<b>Energi Savr Node™</b>	Softswitch®	QSN-4S16-S	4	1	14	0	
	0–10V	QSN-4T16-S					
	0–10V/Switching (DIN-rail)	QSNE-4T10-D					
	Switching (DIN-rail)	QSNE-4S10-D					
	DALI (DIN-rail)	QSNE-2DAL-D	16		3		
	EcoSystem single-link	QSN-1ECO-S	Up to 100		30		
	EcoSystem dual-link	QSN-2ECO-S			3		
	EcoSystem dual-link (DIN-rail)	QSNE-2ECO-D					
	Phase-adaptive (DIN-rail)	QSNE-4A-D	4		4		
<b>QS link power supply</b>	Plug-in booster	QSPS-P1-1-50	0	0	8	0	
	10-Output shade panel	QSPS-P1-10-60	0	1	8 per output		

QS device	Product description	Model number	Zone count	Device count	PDUs supplied	PDUs consumed
<b>QS sensor module</b>	QS sensor module	QSM2-4W-C	0	1	0	3
	Added wired occ/vac sensor	LOS-...		0		2
	Added wired daylight sensor	EC-DIR-WH		0.5		
	Added wired IR receiver	EC-IR-WH		0.5		
	Added 4-button EcoSystem wallstation	CC-4BRL-WH		1		
	Added Pico® wired control	PX-...		0.5		
<b>Other QS accessories</b>	seeTouch® QS keypad	QSWS2-	0	1	0	1
	International QS keypad wallstation	QSWE-	0			1
	QS timeclock	QSGR-TC-35-WH-CPN5825	0			3
	QS contact closure interface	QSE-IO	Up to 5			3
	QS network interface	QSE-CI-NWK-E	0			2
	QS DMX interface	QSE-CI-DMX	0			2
	QS keyswitch	QSWS2-KS...	0			1
	QS IR eye	QSE-IR-WH	0			1
	ESN programming interface	QSE-CI-AP-D	0			2
<b>Shades</b>	Electronic drive unit	—	1	1	0	See Spec. Submittal
	QS smart panel power supply	—	1	1	See Spec. Submittal	0

\*Specification of Lutron® products subject to change. Review of current specification documents recommended.

## A history of sustainability, innovation and quality

### Sustainability

At Lutron, sustainability is not a new concept. Since 1961, we have been designing industry-leading technology that saves energy and reduces greenhouse gas emissions, and are a proud member of the U.S. Green Building Council.



### Our philosophy

Lutron is a company built on a belief in taking care of the people: customers, employees, and the community. We innovate in advance of emerging market needs and continually improve our quality, our delivery, and our value.

### Innovation

Lutron owns over 1,700 patents and manufactures more than 15,000 products. For over 50 years, we have met and exceeded the highest standards of quality and service. Every one of our products is quality-tested before it leaves the factory.

## Global service and support

You can count on a level of support unequalled anywhere in the industry and anywhere in the world. Lutron provides 24/7 technical phone support. Lutron Field Service, made up of a global network of customer-focused field service engineers, provides world-class services that begin before your building is commissioned and continue throughout the life of your building.

[www.lutron.com](http://www.lutron.com)

World Headquarters 1.610.282.3800

Technical Support Center 1.800.523.9466 (Available 24/7)

Customer Service 1.888.LUTRON1

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