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



Energi TriPak®



GRAFIK Eve® QS families



Energi Savr Nodem tamilies



RadioRA® 2





Specification Guides | Lutron_® solutions for projects of every size

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



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

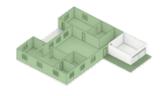
Solutions for large/multiple rooms

- 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









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





Volume 2 | Table of contents

Introduction

- 2 Expanded table of contents for systems and components
- 4 Energy-saving strategies for projects of every size
- 5 Scalable light management solutions
- 6 Small/medium room solutions
- 7 Large/multiple room solutions
- 8 Voltages and energy-saving strategies by system

System overviews

Small/medium room systems

- 10 Energi TriPak®
- 22 GRAFIK Eye® QS
- 40 GRAFIK Eye QS with EcoSystem®/DALI

Large/multiple room systems

- 58 Energi Savr Nodem
- 78 RadioRA® 2

System components

92 Primary controls 162 Sub-controls 214 Energy-saving sensors 264 Control interfaces 292 Power interfaces 322 Ballasts and drivers 376 Software applications and system programming 384 Shading systems 398 Wallplates and accessories 440 Ivalo® fixtures

Appendix

450	Glossary
462	Voltages by country
465	International radio frequencies
468	International backbox styles
471	Power Draw Units

Lutron_® | Expanded table of contents for systems and components

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 0–10 V/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 0-10 V/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 Eve

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 Savrm 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

High-bay occupancy sensor

Power packs

Infrared partition status sensor

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 Nodem 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

Lutron | Energy-saving strategies for projects of every size

Energy-saving strategies

Strategy		Potential savings ¹
Max: 100% Max: 80%	High-end trim sets the maximum light level, based on customer requirements, in each space.	10%-20% Lighting ²
Auto On Auto Off	Occupancy/vacancy sensing turns lights on when occupants are in a space and off when people vacate the space.	20%-60% Lighting ³
Full On Dim	Daylight harvesting dims electric lights when daylight is available to light the space.	25%-60% Lighting 4
Full On Dim	Personal dimming control gives occupants the ability to set the light level.	10%-20% Lighting ⁵
Shade Open Shade Closed	Controllable window shading moves shades to reduce glare and solar heat gain.	10%-30% AC ⁶
Full On Dim	Demand response automatically reduces lighting loads during times of peak electricity usage.	30%-50% Lighting during peak periods ⁷
7am: Dim 7pm: Off	Scheduling provides scheduled changes in light levels based on time of day.	Variable
Raise Temp Lower Temp	Temperature control automatically sets back the temperature, so less energy is used when heating or cooling a room.	Variable

- 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.
- 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.
- 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.
- 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.
- Galasiu AD, et al. 2007. Energy-saving lighting control systems for open-plan offices: A field study. Leukos. 4(1) pg. 7–29.
- Lutron commissioned study by Herrick Laboratories. Purdue University. 2011.
- Newsham GR & Birt B. 2010 demand-responsive lighting a field study. Leukos. 6(3) pg. 203-225.

Small/medium room solutions



Commercial

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



Residential

- · Home theaters
- · Living rooms
- Kitchens

Large/multiple room solutions



Commercial

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



Residential

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

Systems available for small/medium rooms

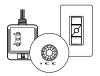
Energi TriPak®

- · 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



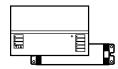
GRAFIK Eye QS

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

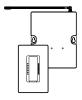
RadioRA® 2

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

Energi Savr Nodem

- · 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



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.



Energi Savr Node for 0-10 V/ 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.



INTERNATIONAL MODELS AVAILABLE

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

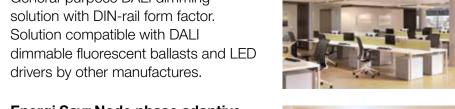


- Hallways
- Lobbies
- Storage areas



Energi Savr Node for DALI

General-purpose DALI dimming Solution compatible with DALI 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

Lutron_® | **Voltages and energy-saving strategies by system**

Small/medium room systems

		Energi TriPak® pg. 10	GRAFIK Eye® QS/ GRAFIK Eye QS with EcoSystem®/ DALI pg. 22	Energi Savr Node™ phase adaptive (DIN-rail) pg. 58	Energi Savr Node with EcoSystem (DIN-rail) pg. 58
Voltage availab	ility*				
100 V		•	•		
110V-127V		•	•		
127 V (NOM)		•	•		
120 V/277 V		•	•		
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

Energi Savr Node™ with EcoSystem® pg. 58	RadioRA® 2 pg. 78	Energi Savr Node for 0-10V/ Softswitch® pg. 58	Energi Savr Node for DALI (DIN-rail) pg. 58	Energi Savr Node for 0–10 V/ Switching (DIN-rail) pg. 58
•	•	•		
•	•	•		
•	•	•		
•		•	•	•
			•	•
•	•	1	•	1
•	•	•	•	•
•	•	•	•	•
•		•	•	•
• 2	•	2	2	• 2
	•			
• 3	•	3	3	• 3
•	•	•	•	•

¹Available with Energi Savr Node for 0–10V models

³Shade keypad required

²Available by connecting to QS timeclock

Small/medium room solutions | Energi TriPak

This family of wireless, energysaving 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 Savrtm daylight sensor







PowPak® plug-in appliance module



Radio Powr Savr ceiling-mount occupancy/vacancy sensor



PowPak® dimming module with EcoSystem®





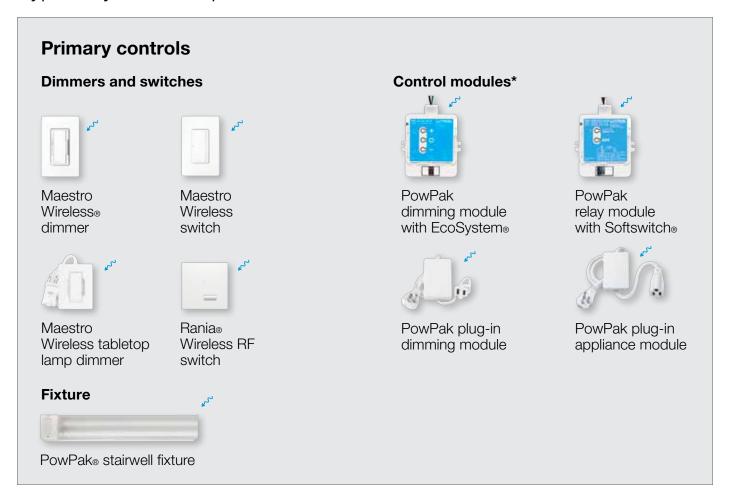
Pico_® wireless control

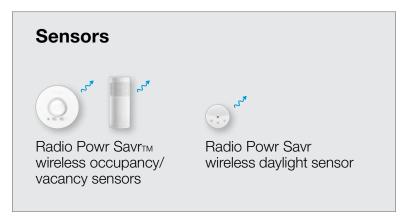


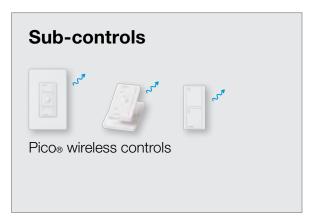
EcoSystem H-Series digital dimming ballast

Small/medium room solutions | Energi TriPak

Typical system components and communication



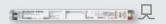




12

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



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.

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 100 V 120V 110-127V 127 V (NOM) 200 V 277 V 220-240 V

FREQUENCY 315MHz 434 MHz 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 277 V

FREQUENCY 434 MHz 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 4ft, 1 or 2 lamp, and T8, T8 reduced wattage, T5HE, or T5HO lamp options
- 4ft 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 230 V CE



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

FREQUENCY 315 MHz 434 MHz

BACKBOX U.S. style

- Used for applications in which a local switch already exists
- Communicates wirelessly to up to 9 transmitting devices (Radio Powr Savrm 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 127 V (NOM)

FREQUENCY 434 MHz

- · 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)

Small/medium room solutions | Energi TriPak

Energi TriPak

dimming and switching load summary		PowPak® dimming module with EcoSystem®		PowPak relay module with Softswitch®	Rania _® wireless switch
		Load voltage	es	400)/	
		110-127V 127V (NOM) 120V 277V 220-240V	100 V 200 V 220 – 240 V	100V 110–127V 127V (NOM) 120V 277V 220–240V	220-240V
Dimm	ed loads	220–240 V	22U-24U V	220–240 V	220-240 V
\Diamond	Incandescent/halogen	BMJ + WBX			
\ \frac{1}{\sqrt{2}}	Magnetic low-voltage	BMJ + WBX			
\P	Electronic low-voltage	BMJ + WBX			
□ ≠/፡◎	Fluorescent and LED (3-wire)	BMJ, BMF			
□ ≠/፡◎	Fluorescent and LED (0-10V)	LMF			
∠	Fluorescent and LED (PWM)				
∠ @=	Tu-Wire® fluorescent				
	LED (2-wire forward phase)				
\$/₩	CFL/LED (screw-base)	BMJ + WBX			
Q	Neon/cold cathode	BMJ + WBX			
	Fluorescent and LED (EcoSystem®)	•	•		
	Fluorescent and LED (DALI)				
Switched loads					
Non-di	m lighting (loads above)			•	•
HID				•	•
Motor				•	•
Fan loads				•	
Appliar	Appliance loads			•	

Compatible load control (no interfaces)

BMJ: EcoSystem dimming power module

WBX: Phase-adaptive power module

with 3-wire input

BMF: EcoSystem fixture module

LMF: EcoSystem to 0-10V interface

TVI: 0-10V interface

PWM: Pulse width modulation interface

Maestro Wireless® di	mmer		Maestro Wireless® switch	Maestro Wireless tabletop lamp dimmer	PowPak® plug-in dimming module	PowPak plug-in appliance module
110–127V 127V (NOM) 120V	277V	100 V 200 V	100 V 120 V 200 V 277 V	110-127V 127V (NOM) 120V	110-127V 127V (NOM) 120V	110-127V 127V (NOM) 120V
		I				I
•	WBX	•		•	•	
•	WBX	•		•	•	
•	WBX					
•						
TVI	TVI					
PWM	PWM					
•						
WBX	WBX					
WBX						
			•	•	•	•
			•			•
			•			•
			•			•

Small/medium room solutions | Energi TriPak

Sub-controls

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

Pico® wireless control



POWERED BY Battery

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



- 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 127 V NOM

220-240V

277 V

EcoSystem H-Series ballast



- Continuous flicker free dimming from 100% to 1%
- Models available for T8, T5, and T5HO lamps
- **POWERED BY** 120V 110-127V 127 V NOM 220-240V 230 V CE 277 V 347 V
- Available with EcoSystem digital link

EcoSystem ballasts for compact fluorescent lamps (CFL)



POWERED BY

120V

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

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

277 V

110-127V 127 V NOM 220-240V 277 V

Hi-lume 3D ballast



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

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 127 V NOM 220-240V 277 V

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

Sensors

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

Radio Powr Savrm wireless occupancy/vacancy sensors



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 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 127 V NOM 277 V 220-240 V

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)

Small/medium room solutions | GRAFIK Eye. QS

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
- A/V integration
- · Shade integration
- Timeclock

Typical applications

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



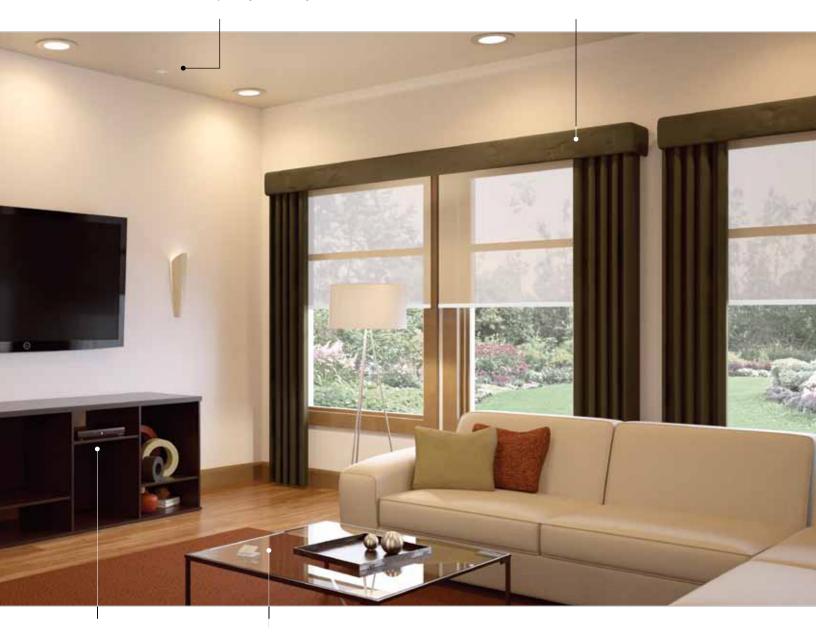
Download the connection diagrams for GRAFIK Eye QS



Radio Powr Savr_{TM} wireless occupancy/vacancy sensor



Sivoia® QS drapery track and roller shade



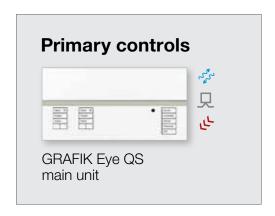


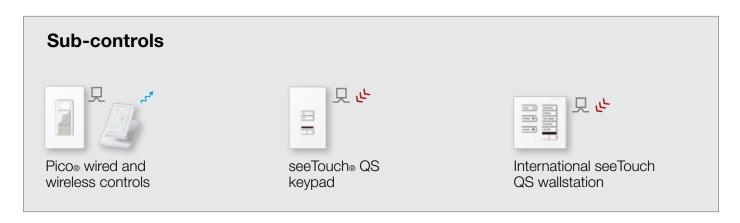
RS232/Ethernet interface (in cabinet)

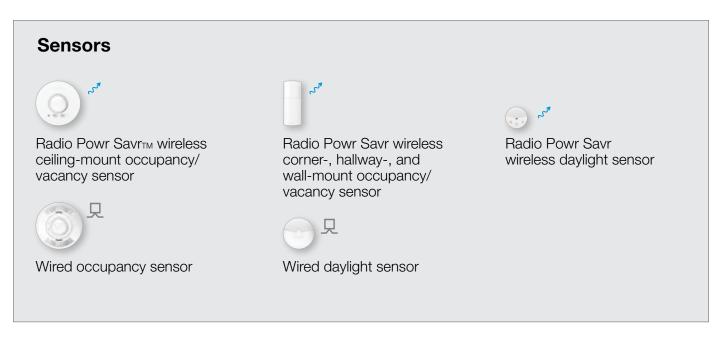


Pico_® wireless controls

Typical system components and 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 100 V 120 V 110-127V 127 V NOM 220-240V 230 V CE

FREQUENCY 434 MHz 434 limited channel MHz 865 MHz 868 MHz 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 Savrm 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)



Small/medium room solutions | GRAFIK Eye, QS

GRAFIK Eye QS dimming and switching load summary	GRAFIK Eye	e QS main unit	
	Load voltages		
Requires 120V control input	120 V 110-127 V 127 V (NOM)	277V*	
Dimmed loads	(- /		
	•	PA	
	•	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®)	Coo CDAEIK Evo OC	with EagSystom/DALL	
Fluorescent and LED (DALI)	See GRAFIK Eye QS with EcoSystem/DALI		
	•		
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) 3F: 3-wire fluorescent power module

ELVI-CE: Electronic low-voltage interface (CE) **ELVI-AU**: Electronic low-voltage interface (AU)

FDBI-AU: Fluorescent dimming ballast interface (AU)

Phase-adaptive power module PA:

PA-JA: Phase-adaptive power module for Japan PWM: Pulse width modulation interface PWM-JA: Pulse width modulation for Japan

SW: Switching power module

SW-JA: Phase-adaptive power module for Japan

TVI: 0-10V interface

0-10V interface for Japan TVI-JA:

PB-CE: Power booster (CE) PB-AU: Power booster (AU)

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

Sub-controls

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

seeTouch® QS keypad



- · 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: 4.56in (116mm) D: 1.06 in (27 mm) Profile: 0.31 in (8 mm)

International seeTouch QS wallstation



- 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



POWERED BY QS link 1/2 PDU (with QSM)

BACKBOX 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



POWERED BY QS link 1 PDU (with QSM)

BACKBOX 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 434 MHz 434 MHz Limited channel 865 MHz 868 MHz 868 MHz 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: 1.30 in (33 mm) H: 2.60 in (66 mm) D: 0.31 in (8 mm)

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: 2.72 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
- 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 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 dim fluorescent and/or LED lighting.

EcoSystem® ballast



POWERED BY

120V

110-127V

127 V NOM

220-240V

277 V

- · 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

Hi-lume® 3D ballast



- Continuous, flicker-free dimming from 100% to 0.3% for T8, T5 and T5HO lamps, and 5% for T5 twintube and T5HO 80W lamps
- POWERED BY 120 V 110-127 V 127 V NOM 220-240 V 277 V
- Available with EcoSystem digital link or 3-wire control

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
- POWERED BY 120 V 110-127 V 277 V
- Available with 3-wire control

Tu-wire® ballast



POWERED BY

120 V

110-127 V

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

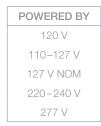
Hi-lume® A-Series LED driver



Continuous, flicker-free dimming from 100% to 1%

Models available for LED light engines up to 40 W, constant current or constant voltage

 Available with EcoSystem digital link, 3-wire or 2-wire forward phase control



Sensors

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

Wireless

Radio Powr Savrm 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

- 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: 1.13in (29mm)

Wall-mount:

W: 1.80 in (46 mm) H: 4.35 in (110 mm) D: 1.13 in (29 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 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: 1.40in (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 315 MHz

434 MHz 434 limited channel MHz 865 MHz 868 MHz 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: 0.70in (17 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 GRAFIK Eye QS main unit 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 45ft (14m)
- · 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

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 OS 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 thirdparty 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



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 or controls and ten each of the wireless devicesoccupancy/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



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)

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 Batterv

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
- · 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 100 V 120 V 110-127V 127 V NOM 220-240V

230 V 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 PCbased 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 multiroom applications
- Connects directly to USB port on front of GRAFIK Eye QS main unit

Small/medium room solutions | GRAFIK Eye, QS with EcoSystem, /DALI

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



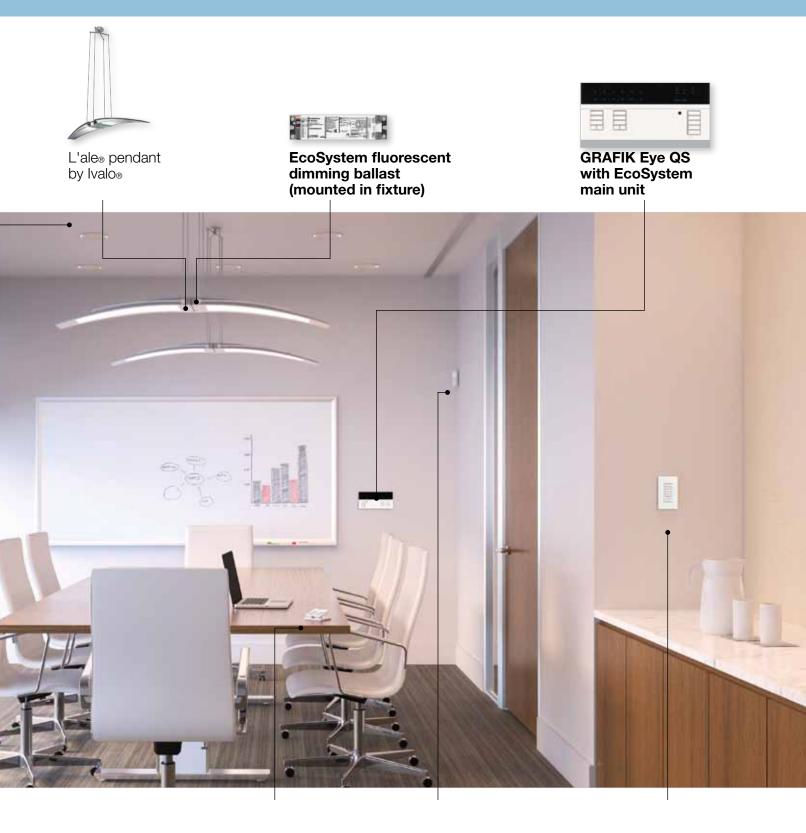
Radio Powr Savrm wireless daylight sensor



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



Sivoia® QS wireless roller shade





Pico® wireless controls

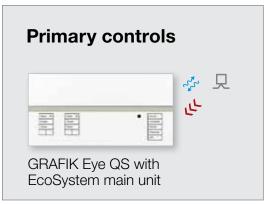


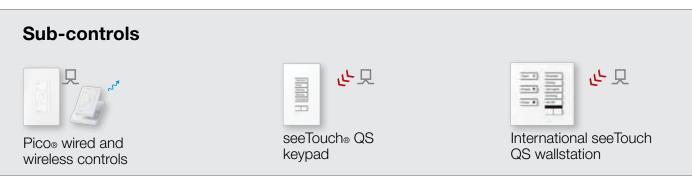
Radio Powr Savr wireless occupancy/vacancy sensor

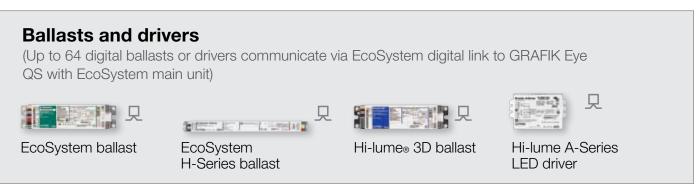


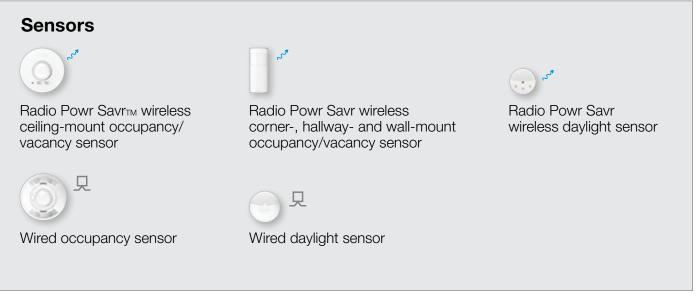
seeTouch® QS keypad

Typical system components and communication









Control interfaces



QS RS232/ Ethernet interface



QS contact closure interface



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

Q 25.

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

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

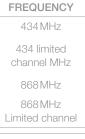
Primary Controls

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 127 V NOM 220-240V 230 V CE



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)



Small/medium room solutions | GRAFIK Eye, QS with EcoSystem, /DALI

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



Load voltages

GRAFIK Eye QS with EcoSystem main unit

1	Require	s 120 V	control	input
---	---------	---------	---------	-------

² To control 347 V loads, use GRAFIK Eye

120 V	
110-127V	
40714(1014)	

QS ,ain unit fed from 120 V/220-240 V.		110-127 V	0
		127 V (NOM)	277 V 1
Dimm	ed loads		
Q	Incandescent/halogen	•	PA
\overline{Y}	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® fluorescent	•	
	LED (2-wire forward phase)	•	
\$/₩	CFL/LED (screw-base)	PA	PA
	Neon/cold cathode	•	
` (≠/	Fluorescent and LED (EcoSystem)	•	•
- /	Fluorescent and LED (DALI)		
	Cree _® LR4/LR6 LED	•	
Switcl	hed loads		
Non-di	im lighting (loads above)	•	SW, TVI, PWM, XPJ
HID		SW, TVI, PWM	SW, TVI, PWM
Motor loads		SW, XPJ, TVI, PWM	SW, TVI, PWM, XPJ

Power interfaces

Fan loads

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

SW, XPJ, TVI, PWM

LMF: EcoSystem to 0–10V interface **PWM**: Pulse width modulation interface

BMF: EcoSystem fixture module

BMJ: EcoSystem dimming power module

SW, TVI, PWM, XPJ

GRAFIK Eye QS with EcoSystem main unit		GRAFIK Eye QS for DALI main unit
		220-240V
220-240V	347 V ²	230 V (CE)
-		
•		
FIVE ALL		
ELVI-AU FDBI-AU		
TVI		
PWM		
1 *****		
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



- · 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 infared (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



- · 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 infared (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



POWERED BY Ballast/module with IR input QS link 1/2 PDU (with QSM)

BACKBOX 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



POWERED BY Ballast/module with IR input QS link 1 PDU (with QSM)

BACKBOX 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 lighs 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 120 V 110-127V 127 V NOM 220-240V 277 V

- 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 127 V NOM 220-240V 230 V 277 V 347 V

- 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 127 V NOM 220-240V 277 V

- · 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 127 V NOM 220-240V 277 V

- 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 120 V 110-127V 277 V

- · 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 120 V 110-127V 220-240V 277 V

- · Continuous, flicker-free dimming from 100% to 1%
- Efficiency greater than 80% at 40 W
- 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 Savrm 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)

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)

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 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 45ft (14m)
- 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: 4.56in (116mm) 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 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 devicesoccupancy/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 thirdparty 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: 4.26in (108mm) 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 multiroom 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)



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



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_®¹

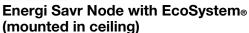
Typical applications

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

Download the connection diagrams for Energi Savr Node

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







QS sensor module





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



Pico® wireless light and shade controls



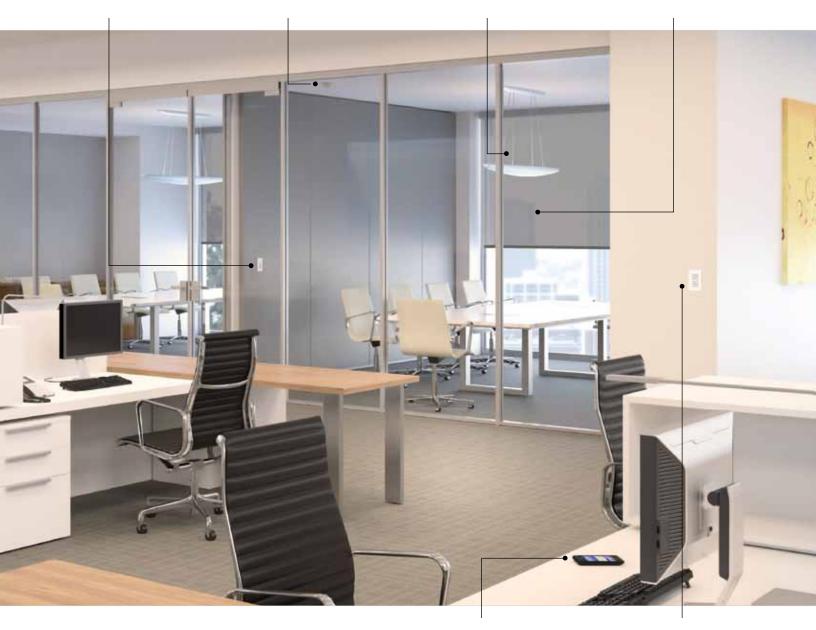
Radio Powr Savr_{TM} wireless occupancy/vacancy sensor



Aliante® pendant by Ivalo®



Sivoia® QS wireless roller shade



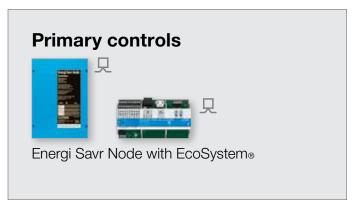


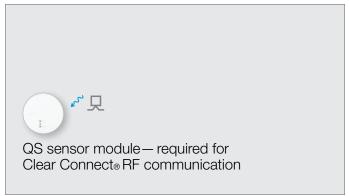
iPhone application

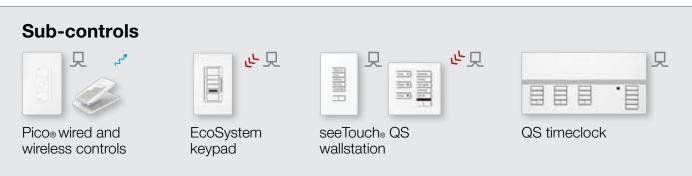


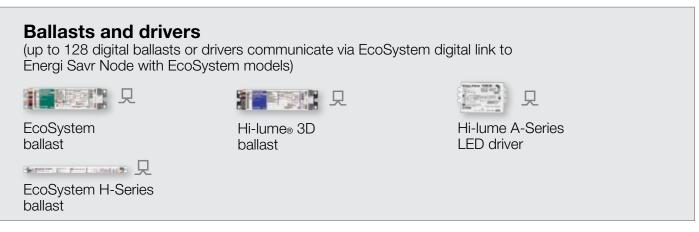
seeTouch® QS keypad

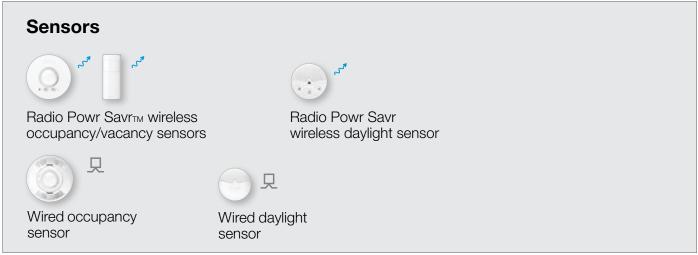
Typical system components and communication











Control interfaces



QS RS232/ Ethernet interface



QS contact closure interface



Emergency lighting interface

Third-party devices



A/V equipment (by others)



IR remote control (by others)



Security system (by others)



Touch panel control (by others)



iPod touch®, iPad® or iPhone®1 (WiFi router required)



Louvres (by others)

Shades



Sivoia® QS wired/wireless shade



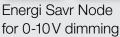
QS smart panel power supply

Additional primary controls



Energi Savr Node with Softswitch®







Energi Savr Node for DALI



Energi Savr Node Phase Adaptive

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

¹iPhone, 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).

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					
110-127 V NOM					
DIN-rail:					
220-240 V					
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)

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

Energi Savr Node for DALI



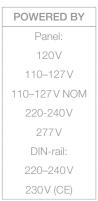
POWERED BY 230 V (CE) 220-240 V

- 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**







- 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 0-10 V





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

- · Provides control of dimmable CFL/LED loads in addition to incandescent/halogen, electronic low-voltage, magnetic lowvoltage, 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)



Energi Savr Node load summary		Energi Savr N	lode		Energi Savr Node with EcoSystem	Energi Savr Node
		with EcoSystem®		(DIN-rail)	(DIN-rail)	
To control 347 V loads, use Energi Savr Node with EcoSystem fed from 120 V Does not provide interlock between outputs Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with this module		Load voltages				
		120 V 277 V 110–127 V 127 V (NOM) 220–240 V	220- 240V	347 V ¹	230V (CE) 220–240V	230V (CE) 220–240V
Dim	med loads					
\Diamond	Incandescent/halogen	BMJ + WBX				
\$	Magnetic low-voltage	BMJ + WBX				
\Box	Electronic low-voltage	BMJ + WBX				
□ (€	Fluorescent and LED (3-wire)	BMF, BMJ				
∠ ⊕/@	Fluorescent and LED (0-10V)	LMF				
□ ≠/@	Fluorescent and LED (PWM)					
∠ ()=	Tu-Wire _® ballasts	BMJ + WBX				
63	LED (2-wire forward phase)					
₹/₽	CFL/LED (screw-base)	BMJ + WBX				
_Q	Neon/cold cathode	BMJ + WBX				
∠ \$=/€	Fluorescent and LED (EcoSystem)	•	•	•	•	
□- /®	Fluorescent and LED (DALI)					•
Swit	ched loads				'	'
Non-	dim lighting	XPJ				
HID						
Moto	or loads	XPJ				
Fan I	oads	XPJ				

Power interfaces

Compatible load control (no interfaces) **TVI**: 0-10V interface

PWM: Pulse width modulation interface **BMJ**: EcoSystem dimming power module

XPJ: EcoSystem switching power module FDBI-AU: Fluorescent dimming ballast interface (AU)

BMF: EcoSystem fixture module

¹ To control 347 V loads, use Energi Savr Node with **WBX**: Phase-adaptive power module

EcoSystem fed from 120V with 3-wire input

² Does not provide interlock between outputs **LMF**: EcoSystem to 0–10V interface

Energi Savr Node with Softswitch⊚	Energi Savr Node for 0-10 V	Energi Savr Node for Switching (DIN-rail)	Energi Savr Node for 0-10V (DIN-rail)	Energi Savr Node for Phase Adaptive (DIN-rail)		
120V 277V 110–127V 127V (NOM) 220–240V 347V	120V 277V 110–127V 127V (NOM) 220–240V 347V	230 V (CE) 220-240 V	230V (CE) 220–240V	230V (CE)	220–240V	
	1	1				
				•	•	
				•	•	
				•	•	
					FDBI-AU	
	•		•	TVI	TVI	
					PWM	
				3	3	
				•	•	
•	•	•	•	TVI	TVI, PWM	
•	•	•	•	TVI	TVI, PWM	
•2	•2			TVI	TVI, PWM	
•	•			TVI	TVI, PWM	

Sub-controls

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

seeTouch® QS keypad



- · 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 (8 mm)

EcoSystem® wallstation



POWERED BY 20 V DC low-voltage from ESN or power pack or ballast/module with IR input QS link 1 PDU (with QSM)

BACKBOX 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



POWERED BY QS link 1 PDU

BACKBOX 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 (8 mm)

Pico® wired control



POWERED BY 20 V DC low-voltage from ESN or ballast/module with IR input or QS link 1/2 PDU

BACKBOX U.S. style

(with QSM)

- · 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 (69 mm) H: 4.57 in (116 mm) D: 1.77 in (45 mm)

Profile: 0.28 in (7 mm)

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 (30 mm) Depth: 0.75 in (19 mm) Cord length: 7.25 in (184 mm)

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 (33 mm) H: 2.60 in (66 mm) D: 0.31 in (8 mm)

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)

Sub-controls (continued)

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

EcoSystem® IR remote control and IR receiver



- · 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



- · 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 110-127 V NOM 220-240 V 277 V

- 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 110-127 V NOM 220-240 V 277 V

- · 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 240 V 277 V

- 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 240 V 277 V

- · 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



- 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 277 V

- · 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 220 V 240 V

- · Continuous, flicker-free dimming from 100% to 1%
- Efficiency greater than 80% at 25 W
- 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 Savrm wireless occupancy/ vacancy sensor



POWERED BY Battery

FREQUENCY

315 MHz (celing-mount only) 434 MHz

> 434 limited channel MHz 865 MHz

(celing-mount only)

868 MHz (celing-mount only)

868 limited channel MHz (celing-mount only) Automatically turns lighting scenes/zones on and/or off based on space occupancy

- Models available as occupancy/ vacancy or vacancy only
- Passive infared (PIR) with Lutron exclusive XCT_{TM} technlogy
- 10-year battery life
- Available in White
- Ceiling-mount:

Diameter: 3.57 in (91 mm) Depth: 1.13in (29mm)

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





20-24 V DC from power pack or ESN QS link 2 PDUs

POWERED BY

(with QSM) 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

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
- Ceiling-mounted
- 10-year battery life
- Available in white
- Diameter: 1.60 in (41 mm) Depth: 0.70in (17 mm)

Wired daylight sensor



POWERED BY

20-24 VDC from ESN 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 **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 45ft (14m)
- · 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 (159 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 (12-24 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
- 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 (12-24 V DC)

- · Provides five contact closure inputs and five contact closure outputs
- Allows integration with thirdparty 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: 5.00 in (127 mm) H: 7.75 in (197 mm) D: 2.50 in (64 mm)

QS motor group controller (DIN-rail)



POWERED BY 120-240V 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: 6.40 in (162 mm) H: 3.50 in (90 mm) D: 2.40 in (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 Batterv 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





- POWERED BY 100 V 120V 110-127V 127 V (NOM) 220-240V 230 V (CE)
- 12 or 24V supply that provides power to shade and drapery drive units
- · Various form factors available

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®.1

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

Energi Savr Node programming interface



POWERED BY QS link 2 PDUs

- · 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: 2.10in (53mm)
 - H: 3.50 in (88 mm)
 - D: 2.40 in (60 mm)

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 device¹
- 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

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

Large/multiple room solutions | RadioRA 2

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









Pico® wireless lighting and shade control



Radio Powr Savr_{TM} wireless occupancy/vacancy sensor



Sivoia® QS wireless drapery and roller shade





Designer dimmers in a 2-gang wallplate

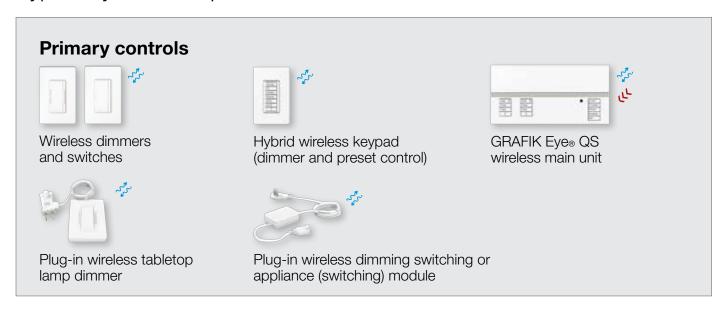


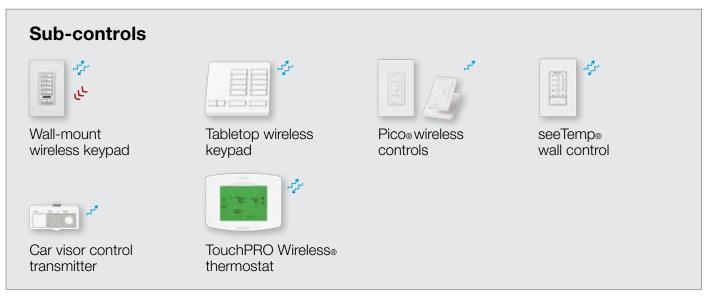
Wireless tabletop keypad

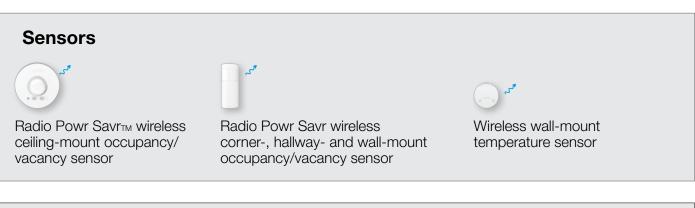


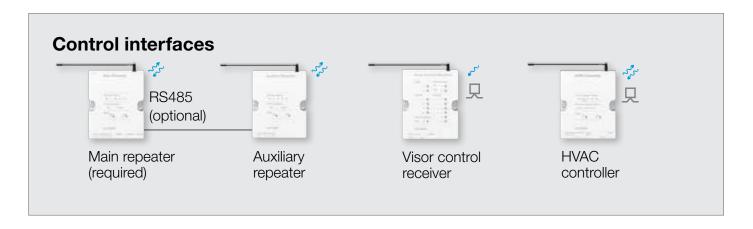
Main repeater (hidden in cabinet)

Typical system components and communication

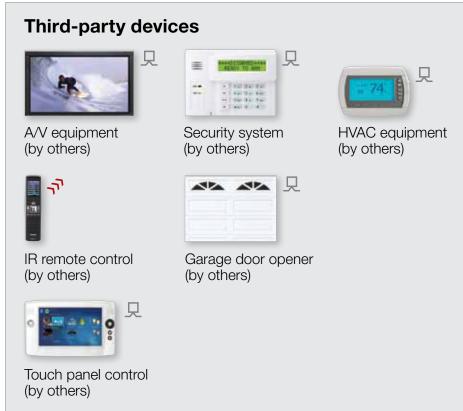












For illustration purposes only. Consult specification submittals and/or installation instructions for specific project wiring information.

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 60ft (18 m) and 30 ft (9 m) to other devices, with a total possible coverage area of approximately 2,500 ft² (762 m²) 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 277 V 110-127V 127 V NOM

FREQUENCY 434 MHz

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 277 V 110-127V 127 V NOM

FREQUENCY 434 MHz **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 127 V NOM 220-240V 240 V CE

FREQUENCY 434 MHz **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 120 V 110-127V 127 V NOM

FREQUENCY 434 MHz

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 127 V NOM

FREQUENCY 434 MHz

- 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 127 V NOM

FREQUENCY 434 MHz

- 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)

Large/multiple room solutions | RadioRA 2

RadioRA 2 dimming and switching load summary RadioRA 2 RadioRA 2 switch dimmer * Visit www.lutron.com/LEDtool Load voltages for a complete list of LEDs 120 V 120V compatible with the adaptive and 110-127V 110-127V neutral wire (1000 W) dimmers **127 V NOM** 277 V 127 V NOM 277 V **Dimmed loads WBX** Incandescent/halogen ∇ Magnetic low-voltage **WBX** \Box **WBX** Electronic low-voltage Fluorescent and LED (3-wire) Fluorescent and LED (0-10V) TVI TVI Fluorescent and LED (PWM) **PWM PWM ∠**(**)**= Tu-Wire® fluorescent LED (2-wire forward phase) ₹/₽ * **WBX** CFL/LED (screw-base) Neon/cold cathode Fluorescent and LED (EcoSystem®) Fluorescent and LED (DALI) **Switched loads** 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

Large/multiple room solutions | RadioRA_® 2

RadioRA 2 dimming and

RadioRA 2 dimming and switching load summary		Hybrid keypad	Tabletop lamp dimmer
		Load voltages	
		120V 110–127V 127V NOM	120V 110–127V 127V NOM
Dimm	ed loads		
\Diamond	Incandescent/halogen	•	•
\$	Magnetic low-voltage	•	•
₩	Electronic low-voltage	PA	
□ ≠/	Fluorescent and LED (3-wire)	3F	
□ ≠/	Fluorescent and LED (0-10V)	TVI	
□ ≠/	Fluorescent and LED (PWM)	PWM	
∠ ©=	Tu-Wire® fluorescent	•	
	LED (2-wire forward phase)		
\$/ \	CFL/LED (screw-base)	PA	
_Q	Neon/cold cathode	PA	
∠ •/	Fluorescent and LED (EcoSystem®)		
□ ≠/	Fluorescent and LED (DALI)		
Switched loads			
Non-dim lighting (loads above)		SW, TVI, PWM	•
HID		SW, TVI, PWM	
Motor	loads	SW, TVI, PWM	
Fan loads		SW, TVI, PWM	

Power interfaces

TVI: 0-10V interface Compatible load control (no interfaces)

PWM: Pulse width modulation interface Phase-adaptive power module PA:

SW: Switching power module 3F: Fluorescent power module

Large/multiple room solutions | RadioRA 2

RadioRA 2 dimming and

RadioRA 2 dimming and switching load summary	GRAFIK Eye® QS main unit	wireless	Plug-in dimming module	Plug-in appliance module
	Load voltages			
For approved lamps visit www.lutron.com/LED Require 120V control input, regardless of load voltage	120V 110-127V 127V NOM	277V ²	120V 110-127V 127V NOM	120V 110-127V 127V NOM
Dimmed loads				
	•	PA	•	
	•	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)	•			
Ç√ CFL/LED (screw-base)¹	PA	PA		
Neon/cold cathode	•			
☐ Fluorescent and LED (EcoSystem®)				
☐ Fluorescent and LED (DALI)				
© Cree LR4/LR6 LED	•			
Switched loads				
Non-dim lighting (loads above)	•	SW, TVI, PWM	•	•
HID	SW, TVI	SW, TVI		•
Motor loads	SW, TVI, PWM	SW, TVI, PWM		•
Fan loads	SW, TVI, PWM	SW, TVI, PWM		•
Appliance loads				•

Power interfaces

SW: Switching power module Compatible load control (no interfaces)

TVI: 0-10V interface Phase-adaptive power module PA:

PWM: Pulse width modulation interface 3F: Fluorescent power module

Sub-controls

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

Wall-mount designer wireless keypad



POWERED BY 120V

FREQUENCY 434 MHz

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 (9 V DC)

FREQUENCY 434 MHz 868 MHz

- 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



- 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 110-127V 127 V 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 Savrm 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 (vacancyonly model available to meet California Title 24 requirements
- · 10-year battery life
- Available in White
- · Ceiling-mount Diameter: 3.57 in (91 mm) Depth: 1.13in (29mm)
- 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)



POWERED BY

120 V plug-in

external

transformer

(9 V DC)

FREQUENCY

434 MHz

868 MHz

RF range between repeaters is 60ft (18m) and 30ft (9m) 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



W: 4.25 in (108 mm) H: 5.25 in (133 mm)

terminal strip (24 V AC)

Connects to mechanical HVAC

equipment using standard HVAC

D: 1.06 in (27 mm)



Auxiliary repeater



POWERED BY 120 V plug-in or external transformer (9 V DC)

FREQUENCY 434 MHz

- RF range between repeaters is 60ft (18m) and 30ft (9m) to other devices
- Auxillary 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



POWERED BY 120 V plug-in external transformer (9 V DC)

> **FREQUENCY** 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







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 100 V 120V 110-127V 127 V NOM 220-240V 230 V CE

- 24V 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 120 V model, while the 4-conductor panel is available in 120V and 230V models
- · QS link power supply available in 100-240 VAC models

Insulating honeycomb shade power panel power supply



- Universal input voltage 120-240V~ 50/60 Hz
- Electronic over-current and overtemperature 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



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 Nodetm with EcoSystem® pg. 144



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



RadioRA 2 RF plug-in modules pg. 125



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



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



Wireless Radio Frequency (RF) communication

Primary controls | Maestro Wireless_® dimmers and switches

depth

.69 in (119 mm)

0.31 in $(8 \, \text{mm})$

profile

2.94 in (75 mm)



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

Direct lighting loads

Incandescent/halogen

Magnetic low-voltage

☐ Electronic low-voltage

∠ Fluorescent and LED (3-wire)

LED (2-wire forward phase)

Non-dim lighting

HID

Motor loads

> Fan loads

Download specification submittal Download high resolution product image

Features and capacities 1.13 in

- (30 mm) · 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

Dimensions and mounting

 Width: 2.94 in (75 mm) Height: 4.69 in (119 mm) Depth: 1.13in (30mm)

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 120 V @ 50/60 Hz; 277 V models available; also at 100 V @ 40/50 Hz; 100/200 V models available
- RF range of 30ft (9 m)

Available finishes

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

















<u>MS</u> Mocha Stone

<u>TC</u> Terracotta <u>SI</u> Sienna

<u>HT</u> Hot

<u>MN</u> Merlot Midnight

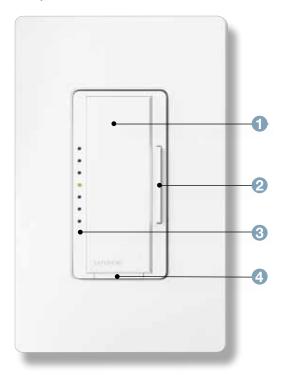
<u>SS**</u> Stainless Steel

^{*}Coordinating wallplates only available separately. For wallplate information, see pg. 392.

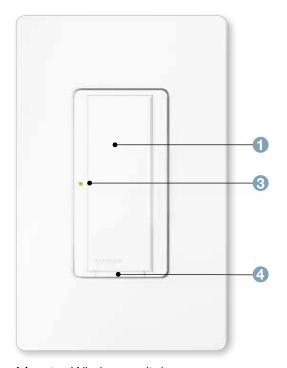
^{**}Stainless Steel wallplate includes black plastic trim/adapter, visible from side. Match with separate Black (BL) or Midnight (MN) controls.

Primary controls | Maestro Wireless_® dimmers and switches

Explanation of features



Maestro Wireless dimmer



Maestro Wireless switch

Features

1 Tap button	Tap once to turn on/off; tap twice to brighten to full intensity
2 Dimming rocker	Press to brighten/dim
3 LEDs	Indicate light level
4 FASS _{TM}	Front Accessible Service Switch to disconnect power from the load for service



Primary controls | Maestro Wireless dimmers and switches

Available models





Dimmer

Switch





Companion dimmer

Companion switch

Model numbers

Digital fade dimmer (434 MHz)

Multi-location/single-pole

MRF2-600M-**XX**¹

120 V. 600 W

Requires a minimum load of 50W.

Compatible with Energi TriPak® system.

▽ Magnetic low-voltage (MLV) dimmers

Digital fade dimmer (434 MHz)

Multi-location/single-pole

MRF2-6MLV-XX¹

120 V, 600 W/VA

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

Digital fade dimmers—specification grade (434 MHz)

Multi-location/single-pole*

MRF2-6ND-120-**XX**¹

120 V, 600 W/VA

Multi-location/single-pole

MRF2-10D-120-XX¹

120 V, 1000 W/VA

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 50 W. Compatible with Energi TriPak system.

XX¹: 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* MRF2-6ELV-120-XX1 120 V. 600 W

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 fade dimmer—specification grade (434 MHz)

Multi-location/single-pole* MRF2-F6AN-DV-XX1 120/277 V, 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.

Low-end trim available via advanced programming. Requires a minimum load of one ballast, 0.05 A. Compatible with Energi TriPak® system.

Digital switches—specification grade (434 MHz)

Multi-location/single-pole* MRF2-8ANS-120-XX1 120 V, 8 A light, 5.8 A fan (1/4 HP motor) Multi-location/single-pole MRF2-8S-DV-XX1 120 V, 8 A light, 3 A fan,

Multi-location/single-pole MRF2-6ANS-277-XX1 277 V, 8 A light, 3 A fan

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

1/10 HP motor

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 25 W.

Compatible with Energi TriPak® system.

Switches

Digital switch (434 MHz)

Multi-location/single-pole* MRF2-6ANS-XX¹ 120 V, 6 A light, 3 A fan 1/10 HP motor

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, 0.2 A fan motor.

Compatible with Energi TriPak® system.

XX¹: Gloss and Satin Colors_® codes, see pg. 95 (Wallplates not included. Order separately, see pg. 408)

XX2: 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.

Primary controls | Maestro Wireless. dimmers and switches

Model numbers (continued)

Digital fade dimmer (315 MHz)

Multi-location/single-pole MRF6-500M-**XX**² 100 V. 500 W/VA

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

Switches

Digital switch (315 MHz)

MRF6-8S-DV-XX² Multi-location/single-pole 100/200 V, 8 A light, 3 A fan, 1/10 HP motor

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

 $MA-R-XX^1$ Companion dimmer 120 V MSC-AD-XX² Companion dimmer MA-R-277-**XX**¹ 277 V MSC-AD-277-XX² MA-R-JA-XX³ Companion dimmer 100 V (Japan)

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 MA-AS-XX¹ 120 V MSC-AS-XX² MA-AS-277-XX1 Companion switch 277 V MSC-AS-277-XX² Companion switch 100V (Japan) HD-RS-JA-XX3

No derating required if ganged.

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

XX²: Satin Colors_® codes, see pg. 95 (Wallplates not included. Order separately, see pg. 408) XX3: Gloss White (WH), Almond (AL), Black (BL),

XX¹: Gloss color codes, see pg. 95

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.

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

Primary controls | Rania Wireless RF switch



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

Download specification submittal

- · 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 (6 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 220-240V @ 50Hz
- RF range of 30ft (9 m)

Primary controls | Rania_® Wireless RF switch

Available finishes

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

Matte Finishes

AW Arctic White MC Mica

Metallic Finishes

<u>AR</u> Argentum

Available Metal Finishes

<u>BB</u>

Bright Brass

<u>BC</u> **Bright Chrome**



<u>BN</u>





Satin Chrome



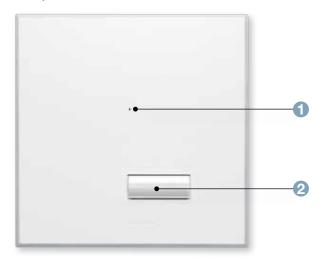






Primary controls | Rania Wireless RF switch

Explanation of features

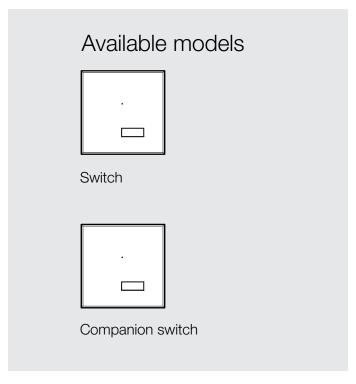


Rania Wireless RF Switch

i catales	
1 LED	Indicates the load is on
2 Tap Button	Tap once to turn on/off; press and hold to activate delayed off

Features





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-FXX1-M
Frame/insert faceplate	RS-SA05-B-IXX1-M
Black frame/	RS-SA05-B-BXX1-M
metal insert faceplate	

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-FXX1-M
Frame/insert faceplate	RRF-SA05-B-B XX 1-M
Black frame/	RRF-SA05-B-IXX1-M
metal insert faceplate	

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 XX 1-M
Frame/insert faceplate	RS-SB05-B-I XX 1-M
Black frame/	RS-SB05-B-B XX 1-M
metal insert faceplate	

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 XX 1-M
Frame/insert faceplate	RRF-SB05-B-B XX 1-M
Black frame/	RRF-SB05-B-IXX1-M
metal insert faceplate	

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 XX ²-M
Rated for: incandescent, mains	voltage halogen,
CFLs, fluorescent, electronic low-voltage, magnetic	
low-voltage, and motor loads.	
Compatible with Energi TriPak s	system.

Companion Switches

Accessory switch,	RS-SNAS-B-F XX 1-M
frameless faceplate	
Accessory switch,	RS-SNAS-B-IXX1-M
frame/insert faceplate	
Accessory switch,	RS-SNAS-B-B XX 1-M
black frame/metal insert facep	olate

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

Interfaces

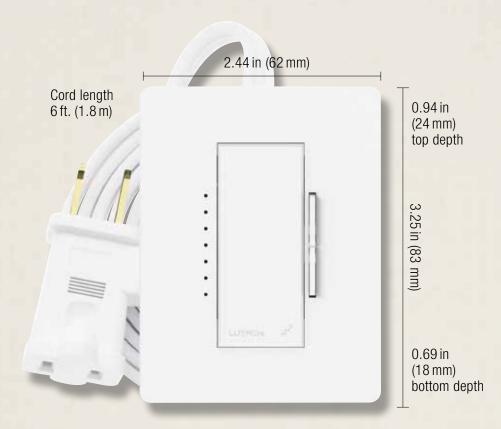
To increase load capacity:

- -Max. 1 840W of 230V~ loads use RN-PB-B-AW-M
- -Max. 1 200 W /A of 12 V~ 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.

XX¹: Available in metallic and metal finishes, see pg. 109

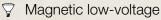
Primary controls | Maestro Wireless_® tabletop lamp dimmer



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

Direct lighting loads

Incandescent/halogen



Non-dim lighting

Features and capacities

- Communicates via Lutron reliable Clear Connect Radio Frequency (RF) technology with Radio Powr 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)

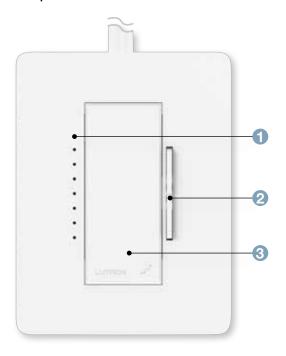
Communication and wiring

- 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 6ft (1.8m) long
- RF range of 30ft (9 m)

Download specification submittal Download high resolution product image

Primary controls | Maestro Wireless_® tabletop lamp dimmer

Explanation of features



Maestro Wireless tabletop lamp dimmer

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

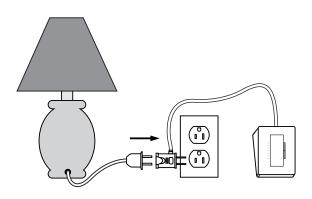


Available finishes

Matte finishes



Installation



Primary controls | Maestro Wireless_® tabletop lamp dimmer

Available models



Maestro Wireless tabletop lamp dimmer

Model numbers

Maestro Wireless tabletop lamp dimmer (434 MHz)

Plug-in lamp dimmer 120 V, 300 W

MRF2-3LD-XX¹

Compatible with Energi TriPak® system.

XX1: Available in White (WH) and Black (BL), see pg. 105

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

Primary controls | PowPak® dimming module with EcoSystem®

3.42 in

depth



2.82 in (72 mm)

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

- (32 mm) 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

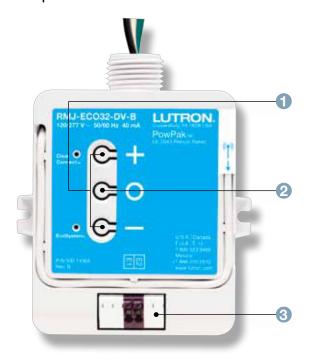
Communication and wiring

- 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 30ft (9 m)

Download specification submittal Download high resolution product image

Primary controls | PowPak® dimming module with EcoSystem®

Explanation of features



Features

1 Raise/lower buttons	 Press to adjust lights to desired level Program occupancy levels and set up daylighting
2 All-on button	Press for full-onAssociate module to wireless transmitters
3 EcoSystem digital link	Ballasts can be connected on the digital link

Model numbers

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

120/211 V @ 30/00112 (404 IV	II I <i>Z)</i>
PowPak dimming module with EcoSystem	RMJ-ECO32-DV-B
220–240V @ 50/60Hz (434 lii	mited channel MHz)
PowPak dimming module with EcoSystem	RMQ-ECO32-DV-B
220–240 V @ 50/60 Hz (868 li	mited 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
200 V @ 50/60 Hz (315 MHz)	
PowPak dimming module with EcoSystem	RMP-ECO32-200-JA

Compatible with Energi TriPak® system.

Primary controls | PowPak® relay module



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

 $(32 \, \text{mm})$ depth

Direct lighting loads

Non-dim lighting

HID

Motor loads

> Fan loads

15 A 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: 1/2 HP (220-240 V) - RMM models: 1/2 HP (220-240 V)

16A

- RMJ models: 0.5 HP (120 V), 1.5 HP (277 V)

- RMQ models: 1.5HP (220-240V) - RMM models: 1/2 HP (220-240 V) - 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
- 16 A 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 knockout 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 315 MHz, 434 MHz, 434 limited channel MHz, or 868 limited channel MHz
- RF range of 30ft (9 m)

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

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

Compatible with Energi TriPak® system.

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

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

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

PowPak relay module, 5A RMM-5R-DV-B PowPak relay module RMM-5RCCO1-DV-B with occupancy-status contact closure output, 5A PowPak relay module, 16A RMM-16R-DV-B PowPak relay module RMM-16RCCO1-DV-B with Softswitch and occupancy-statuscontact closure output, 16A Compatible with Energi TriPak system.

100 V @ 50/60 Hz (315 MHz)

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

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.

Compatible with Energi TriPak system.

Primary controls | PowPak® plug-in dimming and appliance modules



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: 1.20in (30mm)

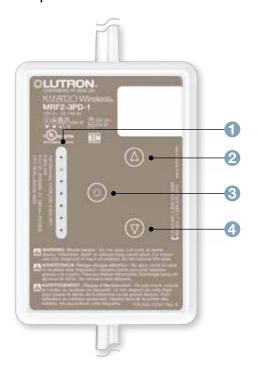
· Module can be hidden discretely behind furniture

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 30ft (9 m)

Primary controls | PowPak® plug-in dimming and appliance modules

Explanation of features



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

Features

1 Status LEDs	Indicate light level; glow softly as night light when load is off
2 Raise button	Press to brighten
3 Toggle button	Press to toggle on/off; double tap for full on; press and hold while on for delayed long fade to off
4 Lower button	Press to dim



Available finishes

Matte finishes

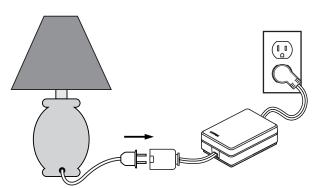


WH White



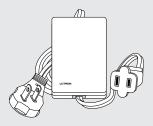
<u>**BL**</u> Black

Installation



Primary controls | PowPak® plug-in dimming and appliance modules

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, 120 V, 300 W/VA MRF2-3PD-1-XX1 3-receptacle, 120 V, 300 W/VA MRF2-3PD-3-XX1 Compatible with Energi TriPak® system.

PowPak plug-in appliance module (434 MHz)

MRF2-15APS-1-**XX**¹ 1-receptacle, 120V, 15A 3-receptacle, 120V, 15A MRF2-15APS-3-XX1 Compatible with Energi TriPak system.

XX1: Available in White (WH) and Black (BL), see pg. 112

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

Primary controls | PowPak® stairwell fixture







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_{TM} 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 4ft*, 1 or 2 lamp, and T8, T8 reduced wattage, T5HE or T5HO lamp options
- · Optional emergency ballast battery backup available (except 2ft 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

• 2ft:

Width: 26.75 in (679 mm); Height: 4.38 in (111 mm); Profile: 3.88 in (98 mm)

• 3ft:

Width: 38.75 in (984 mm); Height: 4.38 in (111 mm); Profile: 3.88 in (98 mm)

• 4ft:

Width: 51.13 in (1299 mm); Height: 4.38 in (111 mm); Profile: 3.88 in (98 mm)

• 2ft vandal resistant: Width: 25 in (635 mm); Height: 9 in (229 mm); Profile: 3.25 in (83 mm)

· 4ft 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

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

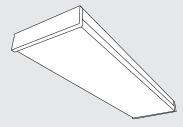
Model numbers

For model numbers visit www.lutron.com

Available models



PowPak stairwell fixture



PowPak vandal-resistant stairwell fixture



Primary controls | RadioRA 2 designer dimmers and switches



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

Direct lighting loads

Incandescent/halogen

 \bigcirc

Magnetic low-voltage

Electronic low-voltage

∠ Fluorescent and LED (3-wire)

LED (2-wire forward phase)

Neon/cold cathode

Non-dim lighting

HID

Motor loads

> Fan loads

1.13 in $(30 \, \text{mm})$ depth

4.69 in (119 mm)

0.31 in

(8 mm)

profile

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: 1.13in (30mm)

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 band
- Dimmers and switches must be located within 30ft (9m) of a repeater
- Operates at 120V @ 50/60Hz; 277 V models available for some loads

Download specification submittal Download high resolution product image Visit www.lutron.com/LEDtool for a complete lost 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*







Light Almond



Almond



lvory



GR Gray



<u>BR</u> Brown



Black

ST Stone

MS

Mocha Stone

Satin finishes*



<u>SW</u> Snow



<u>BG</u> Bluestone



<u>TC</u> Terracotta



<u>LS</u> Limestone



Plum



<u>SI</u> Sienna



<u>**BI**</u> Biscuit



<u>TQ</u> Turquoise



<u>HT</u>



ES Eggshell



<u>GS</u> Goldstone



MR Merlot



<u>**PD**</u> Palladium



<u>DS</u> Desert Stone



MN Midnight



TP Taupe



<u>GB</u> Greenbriar

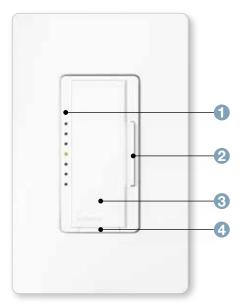


SS** Stainless Steel (wallplate only)

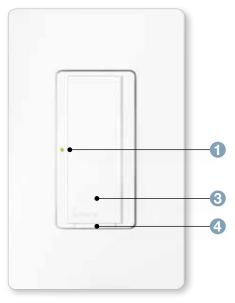
^{*}Coordinating wallplates only available separately. For wallplate information, see pg. 408.

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

Explanation of features



RadioRA 2 designer dimmer



RadioRA 2 designer switch

Features

1 Status LEDs	Indicate light level; glow softly as night light when light is off (not available on remote dimmers/switches)
2 Dimming rocker	Press up to brighten, down to dim
3 Tapswitch	Tap on/off
4 FASSTM	Front Accessible Service Switch to disconnect power from the load for service



Primary controls | RadioRA 2 designer dimmers and switches

Available models





Designer dimmer

Designer switch





Remote dimmer

Remote switch

Model numbers

Dimmers

▽ Magnetic low-voltage (MLV) dimmers

Single-pole/multi-location

RRD-6D-XX1

120 V 600 W/600 VA2

RRD-10D-XX1

Single-pole/multi-location 120 V 1000 W/1000 VA²

Single-pole/multi-location¹

RRD-6NA-XX¹

120 V 600 W/600 VA3

Single-pole/multi-location¹ 120 V 1000 W/1000 VA4

RRD-10ND-XX1

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.



☐ Electronic low-voltage (ELV) dimmer

Single-pole/multi-location¹ 120 V 600 W/600 VA3

RRD-6NA-XX¹

Compatible with Radio RA2 system.

XX¹: 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.

- ¹Requires neutral wire connection.
- ²Requires minimum load of 50 W.
- ³Requires minimum load of 5 W.
- ⁴Requires minimum load of 10W.

Primary controls | RadioRA 2 designer dimmers and switches

▼ Incandescent/halogen or a contract of the contract of Dimmable LED bulbs (screw-base) dimmer

Single-pole/multi-location¹ 120 V 600 W/600 VA2

RRD-6NA-XX¹

RRD-10ND-XX1

Single-pole/multi-location 120 V 1000 W/1000 VA3

Compatible with Radio RA2 System.

Dimmable CFL bulbs (screw-base) dimmer

Single-pole/multi-location¹

RRD-6NA-XX¹

120 V 600 W/600 VA2

Single-pole/multi-location¹

RRD-10ND-XX1

120V 1000W/1000VA3

For a list of approved screw-in, dimmable LED lamps, see www.lutron.com/LEDtool.

Compatible with Radio RA2 System.

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

Single-pole/multi-location¹ RRD-F6AN-DV-XX1 120/277 V 6 A

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. Regiures minimum load of 0.05 A.

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-XX¹

120V

Multi-location RD-RD-277-XX1

277 V

For multi-location control add up to nine remote dimmers to a single RadioRA 2 dimmer. 277 V model for use with RRD-F6AN-DV-XX

Switches and remote switches

Switch

Multi-location/single-pole¹ RRD-8ANS-XX1 120 V 8 A light or 1/4 HP motor 5.8 A motor

Dual-voltage. RRD-8S-DV-XX1

two wire electronic switch4

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

RRD-8ANS-XX requires minimum load of 10W/0.08A RRD-8S-DV-XX requires minimum load of 40 W/0.4 A Compatible with Radio RA2 System.

Remote switch

Multi-location RD-RS-XX¹ 120V

Multi-location RD-RS-277-XX1 277 V

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

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

XX¹: 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.

¹Requires neutral wire connection.

²Requires minimum load of 5 W.

³Requires minimum load of 10W.

⁴Requires shunt capacitor.

Primary controls | RadioRA_® 2 tabletop lamp dimmer



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 6ft (1.8m) 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)

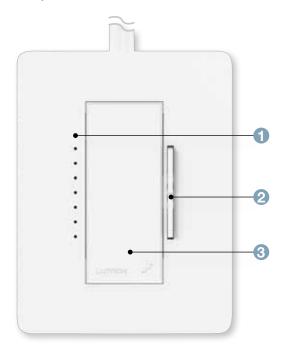
Communication and wiring

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

Download specification submittal Download high resolution product image

Primary controls | RadioRA_® 2 tabletop lamp dimmer

Explanation of features



RadioRA 2 tabletop lamp dimmer



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

Primary controls | RadioRA_® 2 tabletop lamp dimmer

Available finishes

Satin finish



<u>SW</u> Snow



Midnight

Model numbers

RadioRA 2 tabletop lamp dimmers



▽ Magnetic low-voltage (MLV)

Plug-in lamp dimmer 120 V/300 W @ 50/60 Hz (Inc/hal) 120 V/200 W/300 VA @ 50/60 Hz (MLV)

RRD-3LD-XX1

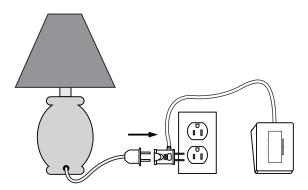
Compatible with RadioRA 2 system.

Available models



RadioRA 2 tabletop lamp dimmer

Installation



XX¹: Available in Snow (SW) and Midnight (MN)



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: 1.13in (30mm)

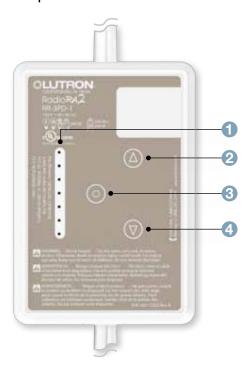
· Module can be hidden discretely behind furniture

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 30ft (9m) of a repeater

Download specification submittal Download high resolution product image

Explanation of features



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)

Features

1 Status LEDs	Indicate light level; glow softly as night light when load is off
2 Raise button	Press to brighten
3 Toggle button	Press to toggle on/off; double-tap for full on; press and hold while on for delayed long fade to off
4 Lower button	Press to dim



Appliance module (with 3-prong plug with ground)

Available finishes

Matte finishes



Snow



MN Midnight

Model numbers

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

Dimming module

RR-3PD-1-**XX**¹ 300 W/300 VA

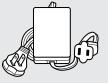
Compatible with RadioRA 2 system.

Appliance module

General purpose switching RR-15APS-1-**XX**¹ 1/2 HP or 15 A

Compatible with RadioRA 2 system.

Available models

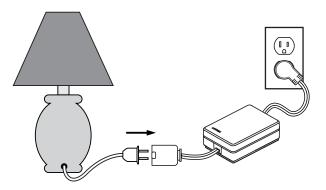


Dimming module (2-prong plug)



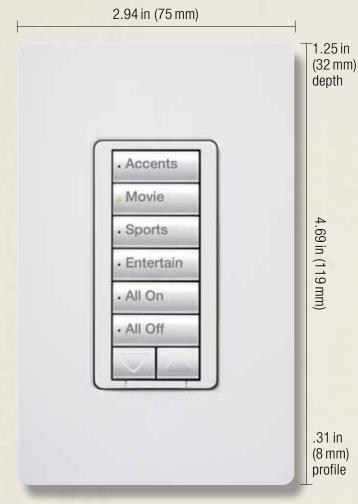
Appliance module (3-prong plug with ground)

Installation



XX¹: Available in Snow (SW) and Midnight (MN)

Primary controls | RadioRA 2 hybrid keypad



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

Download specification submittal Download high resolution product image Download engraving sheet (button kit)

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

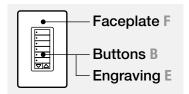
 Width: 2.94 in (75 mm) Height: 4.69 in (119 mm) Depth: 1.25 in (32 mm) Profile: .31 in (8 mm)

· 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 30ft (9 m) of a main/auxiliary repeater

Available finishes



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

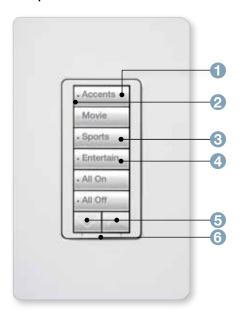
Gloss finishes*



^{*}Coordinating wallplates only available separately. For wallplate information, see pg. 408.

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

Explanation of features



RadioRA 2 hybrid keypad



Features

Default location for toggle dimming of connected load. Can be changed with programming
Show status of lights or shades assigned to button
Press to activate desired levels or positions of lights or shades
Easy to find and read in low-light conditions
Lights increase or decrease in intensity or shades/draperies move towards the open/close limit
Front Accessible Service Switch to disconnect power from the load for service

Primary controls | RadioRA 2 hybrid keypad

Model numbers

▽ Magnetic low-voltage (MLV)

3-button, 2-button with raise/lower dual group keypad and 120V/450W/450VA dimmer	RRD-H1RLD- XX 1
2-button with raise/lower dual group keypad and 120V/450W/450VA dimmer	RRD-H2RLD- XX 1
3-button with raise/lower keypad and 120V/450W/450VA dimmer	RRD-H3BSRL-XX1
4-button keypad and 120V/450W/450VA dimmer	RRD-H4S- XX 1
5-button with raise/lower keypad and 120V/450W/450VA dimmer	RRD-H5BRL- XX 1
6-button with raise/lower keypad and 120 V/450 W/450 VA dimmer	RRD-H6BRL-XX1

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

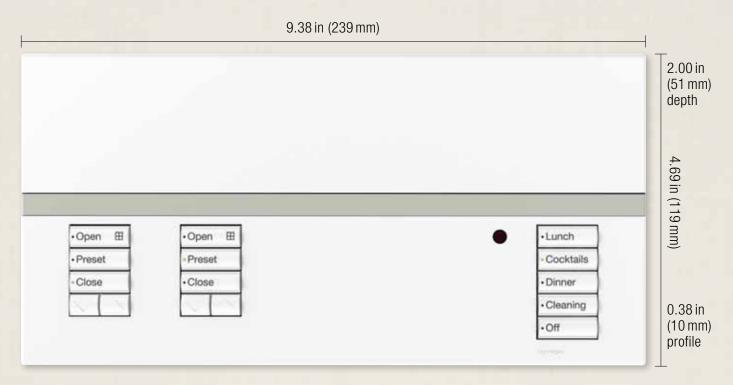
Engraved replacement kits

3-button, 2-button with	RKD-H1RLD- XX 1- <u>E</u> 1
raise/lower dual group keypad and 120V/450W/450VA dimm	ner
2-button with raise/lower dual group keypad and 120 V/450 W/450 VA dimm	RKD-H2RLD- XX 1- <u>E</u> 1
3-button with raise/lower keypad and 120 V/450 W/450 N	
4-button keypad and 120 V/450 W/450 VA dimm	RKD-H4S- <u>XX</u> 1- <u>E¹ ner</u>
5-button with raise/lower keypad and 120 V/450 W/450 V	
6-button with raise/lower keypad and 120 V/450 W/450 V	
Compatible with RadioRA 2 hybrid keypads.	

XX¹: Gloss and Satin Colors® codes, see pg. 129 (Wallplates not included. Order separately, see pg. 408)

E¹: Engraving codes, see pgs. 436-437

Primary controls | GRAFIK Eye, QS main unit



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
Direct lighting loads ☐ Incandescent/halogen ☐ Magnetic low-voltage ☐ Tu-Wire® fluorescent ☐ LED (2-wire forward phase) ☐ Neon/cold cathode ☐ Non-dim lighting ☐ Cree® LR4/LR6 LED	Direct lighting loads ☐ Incandescent/halogen ☐ Magnetic low-voltage ☐ Tu-Wire® fluorescent ☐ (EcoSystem) ☐ LED (2-wire forward phase) ☐ Neon/cold cathode ☐ Non-dim lighting ☐ Lutron electronic low-voltage transformer (240 V only) ☐ Cree® LR4/LR6 LED	Direct lighting loads ∠⊕/③ Fluorescent/LED (DALI)
Download specification submittal GRAFIK Eye QS main unit Download specification submittal GRAFIK Eye QS main unit with E Download high resolution product Download engraving sheet (buttor Download engraving sheet (facep	for EcoSystem/DALI image n kit)	*For 230 V applications, Lutron ELV transformers may be used without an interface, see pg. 425.

Features and capacities

- Models available for 100 V, 120 V, 230 V (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: 9.38 in (239 mm) Height: 4.69 in (119 mm) Depth: 2.00 in (51 mm) Profile: 0.38 in (10 mm)

 Mounts a 4-gang U.S. backbox, 3.5 in (89 mm) 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 434 MHz. 434 limited channel MHz, 865 MHz, 868 MHz, or 868 limited channel MHz band
- · Comminucates to ballasts, modules and LED drivers on the Ecoystem 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 Eve 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

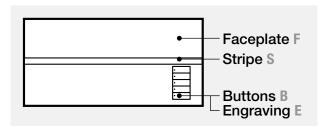
Total unit maximum capacity:

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

Individual triac zone maximum capacity:

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

Available finishes



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

Architectural matte finishes*



Architectural metal finishes*



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

 st 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.

Primary controls | GRAFIK Eye. QS main unit

Satin finishes*

Taupe S. B

White E



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



Gray S Black B

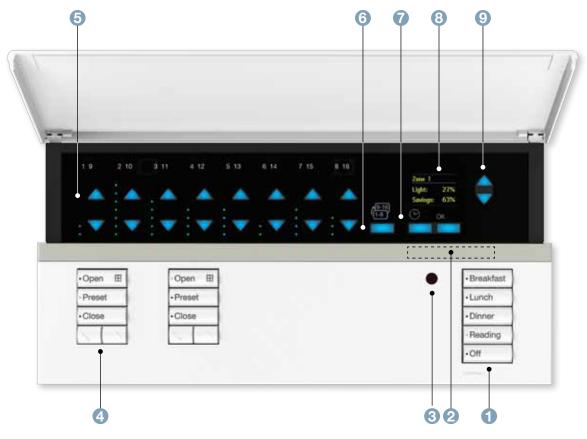
White E

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.

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 or see pg. 436-437 for additional information.

Primary controls | GRAFIK Eye_® QS main unit



GRAFIK Eye QS with EcoSystem® main unit with top open



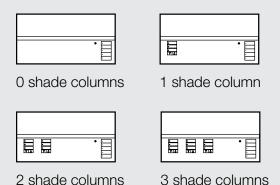
Explanation of features

Features	QS stand-alone RadioRA® 2	
1 Scene control buttons	 1-4 scenes and off Buttons available with configurable fade times Can be configured to control any lights wired to devices on the QS link Buttons can be programmed via software and act as RadioRA® 2 keypads Can also be used for local scenes 	
2 RF transceiver	Communicates with Radio Powr Savr™ sensors, Pico® wireless controls, Sivoia® QS wireless shades and other wireless GRAFIK Eye QS main units (30 ft range) Communicates via RadioRA 2 repeater with other system devices including sensors and keypads	
3 Infrared (IR) receiver	Allows IR connectivity to handheld IR remotes (50ft range line-of-sight); IR receiver located on the front of the main unit	
4 Shade control buttons	 Each shade control has open, preset, close, raise/lower for one shade or a group of shades Models available with 0, 1, 2, or 3 shade columns Can also be used for local scenes (RadioRA 2 only) 	
5 Backlit zone buttons	Non-EcoSystem® models available with 3, 4, or 6 line voltage zones	
	 EcoSystem/DALI models available with 6, 8, or 16 zones EcoSystem models also have three line voltage zones Zone buttons can only control lights wired to the main unit Zones can be programmed to function as RadioRA 2 dimmer and assigned to any scene or keypad button 	
6 Page button	In GRAFIK Eye QS with EcoSystem/ DALI, button toggles between zones 1–8 and 9–16 EcoSystem models not available for use with RadioRA 2	
7 Astronomic timeclock	 Add up to 25 events per day/entire week Scheduling to meet energy codes After-hours capability Timeclock disabled in RadioRA 2 system; use system timeclock in main repeater 	
Information display/ user interface	 Energy savings (as % of energy used) Lighting levels Timeclock information Programming information 	
Master override backlit buttons	Temporarily raise/lower light levels of an entire scene	

Primary controls | GRAFIK Eye. QS main unit

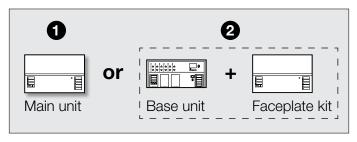
Available models

- · 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



How to select a model number

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



- Main unit: Order a main unit when the installation requires 0 or 1 shade group and unit finish desired is White.
- 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 120-127 V, 220-240 V devices



GRAFIK Eye QS wireless main unit

120-127 V, 220-240 V @ 50/60 Hz (434 MHz)

3 lighting zones

Matte white, 0 shade zones	QSGRJ-3P-WH
Matte white, translucent top,	QSGRJ-3P-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRJ-3P-1WH
Matte white, translucent top,	QSGRJ-3P-1TWH
1 shade zone	

4 lighting zones

Matte white, 0 shade zones	QSGRJ-4P-WH
Matte white, translucent top,	QSGRJ-4P-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRJ-4P-1WH
Matte white, translucent top,	QSGRJ-4P-1TWH
1 shade zone	

6 lighting zones

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.

120 V units are standard phase control, 800 W/ channel, 2000W total (220-240V units are 1200 W/channel, 3000 W total).

Compatible with GRAFIK Eye QS, Energi Savr Node™ and RadioRA® 2 systems.



GRAFIK Eye QS base unit

120-127 V, 220-240 V @ 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
Raco unite roquiro a faconta	ata kit for approxima

Base units require a faceplate kit for operation.

120 V units are standard phase control, 800 W/ channel, 2000W total (220-240V units are 1200 W/channel, 3000 W total).

Compatible with GRAFIK Eye QS, Energi Savr Node and RadioRA 2 systems.

Model numbers for 120-127 V, 220-240 V devices (continued)



GRAFIK Eye QS wireless main unit with EcoSystem®

120-127 V and 220-240 V @ 50/60 Hz (434 MHz)

6 lighting zones

Matte white, 0 shade zones	QSGRJ-6E-WH
Matte white, translucent top,	QSGRJ-6E-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRJ-6E-1WH
Matte white, translucent top,	QSGRJ-6E-1TWH
1 shade zone	

8 lighting zones

Matte white, 0 shade zones	QSGRJ-8E-WH
Matte white, translucent top,	QSGRJ-8E-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRJ-8E-1WH
Matte white, translucent top,	QSGRJ-8E-1TWH
1 shade zone	

16 lighting zones

To lighting zones	
Matte white, 0 shade zones	QSGRJ-16E-WH
Matte white, translucent top,	QSGRJ-16E-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRJ-16E-1WH
Matte white, translucent top,	QSGRJ-16E-1TWH
1 shade zone	

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 1200 W/channel, 3000 W total).

Compatible with GRAFIK Eye QS and Energi Savr Node™ systems.



GRAFIK Eye QS with EcoSystem base unit

120-127 V 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 c	peration.

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.

Model numbers for 230 V devices



GRAFIK Eye QS wireless main unit

230 V (CE) (868 MHz)

3 lighting zones

Matte white, 0 shade zones	QSGRK-3PCE-WH
Matte white, translucent top,	QSGRK-3PCE-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRK-3PCE-1WH
Matte white, translucent top,	QSGRK-3PCE-1TWH
1 shade zone	

4 lighting zones

Matte white, 0 shade zones	QSGRK-4PCE-WH
Matte white, translucent top,	QSGRK-4PCE-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRK-4PCE-1WH
Matte white, translucent top,	QSGRK-4PCE-1TWH
1 shade zone	

6 lighting zones

Matte white, 0 shade zones	QSGRK-6PCE-WH
Matte white, translucent top,	QSGRK-6PCE-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRK-6PCE-1WH
Matte white, translucent top,	QSGRK-6PCE-1TWH
1 shade zone	

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

230 V @ 50 Hz

(wireless models operate at 434 limited channel MHz, 865MHz, 868MHz, or 868 limited channel MHz)

3 lighting zones

o lighting zonioo	
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	QSGRQ-6PCE
channel MHz	
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.

Model numbers for 230V devices



GRAFIK Eye QS wireless main unit with DALI

230 V (CE) @ 50/60 Hz (868 MHz)

6 lighting zones

QSGRK-6D-WH
QSGRK-6D-TWH
QSGRK-6D-1WH
QSGRK-6D-1TWH

8 lighting zones

Matte white, 0 shade zones	QSGRK-8D-WH
Matte white, translucent top,	QSGRK-8D-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRK-8D-1WH
Matte white, translucent top	QSGRK-8D-1TWH
1 shade zone	

16 lighting zones

Matte white. 0 shade zones

matto milito, o oriado zorioo	QUONITY TOD TITT
Matte white, translucent top	QSGRK-16D-TWH
0 shade zones	
Matte white, 1 shade zone	QSGRK-16D-1WH
Matte white, translucent top	QSGRK-16D-1TWH
1 shade zone	

QSGRK-16D-WH

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

230 V (CE) @ 50/60 Hz (wireless models operate at 868 MHz and 868 limited channel MHz)

6 lighting zones

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 I	kit for operation.
Compatible with GRAFIK Eve (OS and Energi Savr

Compatible with GRAFIK Eye QS and Energi Savr Node systems.

Model numbers for 100V devices



GRAFIK Eye QS base unit

100 V @ 50/60 Hz

3 lighting zones

QSGR-3PJA
QSGR-4PJA

6 lighting zones

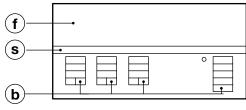
Wired	QSGR-6PJA
VVIIOG	Q001101011

Base units require a faceplate kit for operation.

Standard phase control 600 W/channel, 1600 W total based on number of zones.

Compatible with GRAFIK Eye QS.

Faceplate and button kit model numbers



seeTouch® QS

GRAFIK Eye QS

- faceplate color option
- stripe color option
- button color option

Faceplate kit

O shade zones

Faceplate kit	QSGFP-XX1-EEE1
Faceplate kit, translucent top	QSGFP-T-XX1-EEE1
1 shade zone	
Faceplate kit	QSGFP-1- XX 1- EEE 1
Faceplate kit, translucent top	QSGFP-1T-XX1-EEE1
	QSGIT-TI-XX -LLL
2 shade zones	43411-11- <u>AA</u> - <u>LLL</u>
	QSGFP-2- XX ¹ - EEE ¹
2 shade zones	

3 shade zones

Faceplate kit	QSGFP-3-XX1-EEE1		
Faceplate kit, translucent top	QSGFP-3T- XX 1- EEE 1		
Faceplate kit includes coordinating stripe insert			
and buttons; base unit required for operation.			
Compatible with all GRAFIK Eve OS models			

Stripe and button kits

Stripe kits

Stripe kit	QSGS-XX ¹
------------	----------------------

3-button

3-button with raise/lower QSGB-3BRL-XX²-EEE¹ replacement kit (shade buttons)

5-button

5-button replacement kit	QSGB-5B- XX ²- EEE ¹
(scene buttons)	

Compatible with all GRAFIK Eye QS models.

XX¹: Architectural matte, metal and Satin Colors® codes, see pgs. 134-135

XX²: Architectural matte color codes, see pg. 134

EEE¹: Engraving codes, see pg. 436

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

Primary controls | Energi Savr Node™ with EcoSystem®

9.25 in (235 mm) Energi Savr Node. 13.25 in (337 mm) aving energy since 1961 3.16 in $(80 \, \text{mm})$ depth

Shown above: Energi Savr Node with EcoSystem (QSN-2ECO-S)

Direct lighting loads

∠ Fluorescent/LED (EcoSystem)

Download specification submittal Download high resolution product image

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

²Limitations apply when multiple Energi Savr Node devices are linked together.

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
 m wireless sensors and Pico® wireless controls via the QS sensor module
- · Easy system programming with intuitive application for iPod touch®, iPad® or iPhone®1

Dimensions and mounting

• Width: 9.25 in (235 mm) Height: 13.25 in (337 mm) Depth: 3.16 in (80 mm)

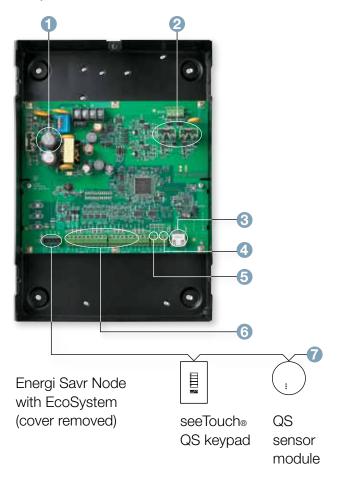
- Surface-mount
- Approved for installation in spaces designed for air handling per NEC article 300.22(c)

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 link²

Primary controls | Energi Savr Node™ with EcoSystem®

Explanation of features



Features	
1 Control power	• 120–277V
2 EcoSystem digital links	 Up to 64 EcoSystem ballasts, modules or drivers per link Models available with one or two links
3 Programming port	Ethernet connection for wireless router for system programming
4 Emergency contact closure input	Force all lights to 100% (by default)
6 Programmable contact closure input	To select scene, enable afterhours, or enable a demand response
6 Wired daylight sensors	Up to 4 wired sensors
Wired occupancy sensors	Up to 4 wired sensors
Wired EcoSystem and Pico® wallstations or infrared (IR) receivers	• Up to 4 inputs
7 QS link	 Link to additional wired controls, sensors, and interfaces Connect to Radio Powr Savr wireless sensors and Pico wireless controls via QS sensor module

Primary controls | Energi Savr Node™ with EcoSystem®

Available models



Energi Savr Node with EcoSystem

Model numbers

Energi Savr Node with EcoSystem 120 V, 240 V and 277 V 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.

9.25 in (235 mm)



3.16 in $(80 \, \text{mm})$ depth

Shown above: Energi Savr Node for 0-10V (QSN-4T16-S)

Direct lighting loads

∠ Fluorescent/ LED (0-10 V)

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

Download specification submittal Download high resolution product image

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

²Limitations 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 0–10 V 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 (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 20 A overcurrent protection device

Dimensions and mounting

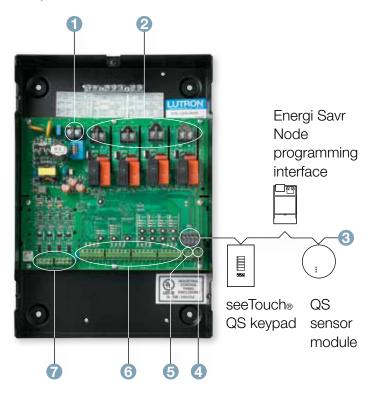
 Width: 9.25 in (235 mm) Height: 13.25 in (337 mm) Depth: 3.16 in (80 mm)

- 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 link²

Explanation of features



Energi Savr Node for 0-10V (cover removed)

Features

0	Control power	•	120–277 V
2	Switched load outputs		4 feed-through Softswitch relays 120–277 V, 347 V
3	QS link		Link to additional wired controls, sensors, and interfaces Connect to Radio Powr Savr _{TM} wireless sensors and Pico _® wireless controls via QS sensor module
4	Emergency contact closure input	•	Force all lights to 100% (by default)
5	Programmable contact closure input	•	To select scene, enable after-hours, or enable a demand response
6	Wired daylight sensors	•	Up to 4 wired sensors
	Wired occupancy sensors	•	Up to 4 wired sensors
	Wired EcoSystem® and Pico wallstations or IR receivers	•	Up to 4 inputs
	Wired IEC PELV/ NEC Class 2 dry contact switches	•	Up to 4 dry contact closure inputs
7	0-10V channels	•	4 dimming zones (0-10 V only)

Available models







Energi Savr Node with Softswitch

Model numbers

Energi Savr Node for 0-10 V

120 V, 220-240 V and 277 V models @ 50/60 Hz

0-10 V 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

120 V, 220-240 V and 277 V models @ 50/60 Hz

Softswitch (120-277 V)

QSN-4S16-S

Softswitch (120-277 V, 347 V)

QSN-4S16-S-347

Compatible with Energi Savr Node system.

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

6.36 in (162 mm)



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 touche, iPade or iPhonee1

Dimensions and mounting

• Width: 6.36 in (162 mm) Height: 3.53 in (90 mm) Depth: 2.39in (61 mm)

- Mounts to standard DIN-rail (width = 9.5 mm)
- 9 DIN-wide device

Communication and wiring

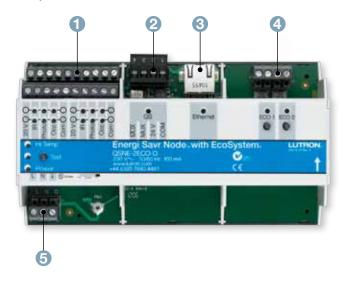
- Communicates to ballasts, modules, and drivers via EcoSystem digital link, and via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- Requires QS sensor module for wireless communication
- QS system can have up to 100 devices and 100 zones; each Energi Savr Node unit and each assigned zone counts toward the limit
- Supplies three power draw units on the QS link²

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

²Limitations apply when multiple Energi Savr Node devices are linked together.

Download specification submittal

Explanation of features



Energi Savr Node with EcoSystem (DIN-rail)

	Features	
0	Wired daylight sensors	Up to 4 wired sensors
	Wired occupancy sensors	Up to 4 wired sensors
	Wired EcoSystem wallstations, IR receivers, or IEC PELV contact switches	• Up to 4 inputs
2	QS link	 Link to additional wired controls, sensors, and interfaces Connect to Radio Powr Savr™ wireless sensors and Pico® wireless controls via QS sensor module
3	Programming port	Ethernet connection for wireless router for system programming
4	EcoSystem digital links	 Up to 64 EcoSystem ballasts, modules, and drivers per link Available with two links

6 Mains wiring

• Wiring from distribution

panel to module

Primary controls | Energi Savr Node™ with EcoSystem® (DIN-rail)

Available models



Energi Savr Node with EcoSystem (DIN-rail)

Model numbers

Energi Savr Node with EcoSystem (DIN-rail) 230 V (CE), 220–240 V

EcoSystem QSNE-2ECO-D

Compatible with Energi Savr Node system.

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

Primary controls | Energi Savr Nodem for DALI (DIN-rail)

6.36 in (162 mm)



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®1
- · 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: 2.39in (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 link²

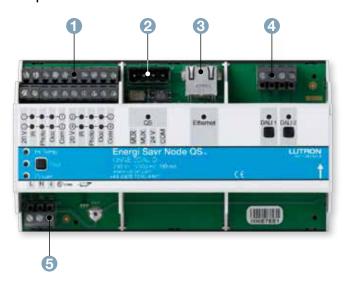
¹iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

²Limitations apply when multiple Energi Savr Node devices are linked together.

Download specification submittal

Primary controls | Energi Savr Node™ for DALI (DIN-rail)

Explanation of features



Energi Savr Node for DALI (DIN-rail)

Features	
Wired daylight sensors	• Up to 4 wired sensors
Wired occupancy sensors	Up to 4 wired sensors
Wired or IR receivers	• Up to 4 inputs
2 QS link	 Link to additional controls, sensors, and interfaces on the QS link Connect to Radio Powr Savr™ sensors and Pico® wireless controls via QS sensor module on the QS link
3 Programming port	Ethernet connection for wireless router for system programming
4 DALI bus	Connect to DALI loop
5 Mains wiring	Wiring from distribution panel to module

Primary controls | Energi Savr Node™ for DALI (DIN-rail)

Available models

0000			0000	0 0	0000
。。 。 □	0	0	0	0	_ °
000					

Energi Savr Node for DALI (DIN-rail)

Model numbers

Energi Savr Node for DALI (DIN-rail) 230 V (CE), 220-240 V

DALI QSNE-2DAL-D

Compatible with Energi Savr Node system.

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

6.36 in (162 mm)



Shown above: Energi Savr Node for 0-10V (QSNE-4T10-D)

Direct lighting loads

∠ Fluorescent/ LED (0–10 V)

Non-dim lighting

HID

Features and capacities

- · Controls up to four 16A circuits of lighting loads (switched relay or 0-10 V dimming)
- Easy system programming with manual buttonpress programming or intuitive application iPod touch®, iPad® or iPhone®1 (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: 2.39in (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 link²

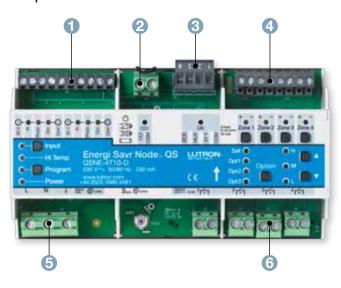
¹iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.

²Limitations apply when multiple Energi Savr Node devices are linked together.

Download specification submittal

Energi Savr Node[™] for 0-10 V/ Energi Savr Node for Switching (DIN-rail)

Explanation of features



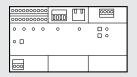
Energi Savr Node for 0-10V

Features

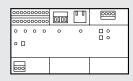
Wired daylight sensors	Up to 2 wired sensors
Wired occupancy sensors	Up to 2 wired occupancy sensors
Wired IR receivers	• Up to 2 inputs
2 Emergency contact closure input	Forces all lights to 100% (by default)
3 QS link	 Link to additional wired controls, sensors, and interfaces Connect to Radio Powr Savr™ sensors and Pico® wireless controls via QS sensor module
4 0-10V channels	4 dimming zones (0-10 V)
5 Mains wiring	Wiring from distribution to bus supply
6 Switched load outputs	4 feed-through relays220–240 V

Energi Savr Node_™ for 0-10 V/ Energi Savr Node for Switching (DIN-rail)

Available models







Energi Savr Node for Switching

Model numbers

Energi Savr Node for 0-10V (DIN-rail)

230 V (CE), 220-240 V

0-10V QSNE-4T10-D

Compatible with Energi Savr Node system.

Energi Savr Node for Switching (DIN-rail)

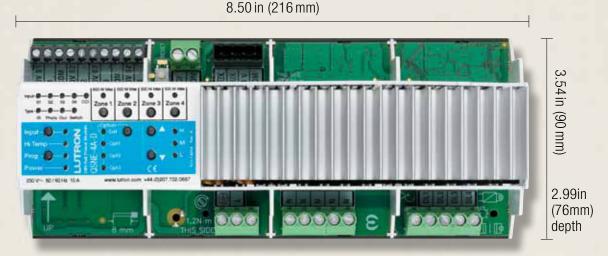
230 V (CE), 220-240 V

Switching QSNE-4S10-D

Compatible with Energi Savr Node system.

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

Primary controls | Energi Savr Node™ phase adaptive (DIN-rail)



Shown above: Energi Savr Node phase adaptive (DIN-rail) (QSNE-4A-D)

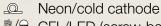
Direct lighting loads

Incandescent/halogen

Electronic low-voltage

 \triangle

Magnetic low-voltage



🦫 GFL/LED (screw-base)¹

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: 800 W, Zone 2, 3, and 4: 500 W)
- · No minumum 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 buttonpress programming or intuitive application for iPod touch®, iPad® or iPhone®2 (wireless router and Energi Savr Node programming interface required)

Dimensions and mounting

- Width: 8.50 in (216mm) Height: 3.54 in (90mm) Depth: 2.99in (76mm)
- Mounts to standard DIN-rail (width = 9.5mm)
- 12 DIN-wide device

Communication and wiring

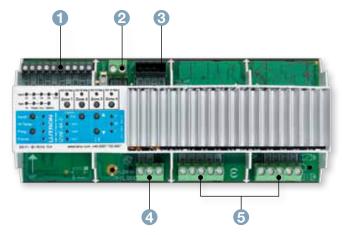
- Communicates via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- Requires QS sensor module for wireless communication
- QS system can have up to 100 devices and 100 zones; each Energi Savr Node and each assigned zone counts toward the 100 limit
- Supplies four power draw units on the QS link³

Download specification submittal

- ¹ Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with this module.
- ² iPhone, iPod touch, and iPad are trademarks of Apple® Inc., registered in the U.S. and other countries.
- ³Limitations apply when multiple Energi Savr Node devices are linked together.

Primary controls | **Energi Savr Node**™ **phase adaptive** (DIN-rail)

Explanation of features



Energi Savr Node phase adaptive (DIN-rail)

Features

Multi-function inputs	4 sensor inputs link to occupancy/vacancy or daylight sensors, IR receivers, or IEC PELV contact switches for energy savings
2 Emergency contact closure input	Force all lights to 100% (by default)
3 QS link	 Link to additional wired controls, sensors, and interfaces Connect to Radio Powr Savr™ wireless sensors and Pico® wireless controls via QS sensor module
4 Mains wiring	Wiring from distribution panel to module
5 Phase adaptive outputs	 Zone 1 – 800W, Zones 2-4 – 500W 220 – 240V

Primary controls | Energi Savr Node™ phase adaptive (DIN-rail)

Available models

000				0000		0000
0 [0	0	0	0	_ °
000	0					

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

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 pq. 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



Pico wired 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 30ft (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

Available finishes

Use **BOLD** color code in model number (Example: PJ-3BRL-G**WH**-T01)

Gloss finishes

Matte finishes



White



WG White/Gray



<u>IV</u> Ivory



LA Light Almond



Black



Arctic White



Black

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

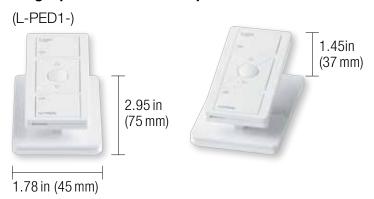


BL Black

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



Dual pedestal for tabletops

(L-PED2-)



3.18 in (81 mm)

Triple pedestal for tabletops

(L-PED3-)



4.59 in (117 mm)

Quad pedestal for tabletops

(L-PED4-)



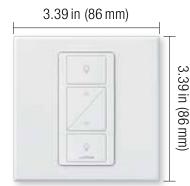
6.00 in (152 mm)

Wall-mount

(no wallbox required)



Pico mounted inside a 1-gang Claro® wallplate in White (CW-1-WH), see pg. 392 (adapter plate required PICO-FP-ADAPT)



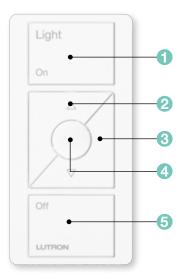


Car visor clip (PICO-CARVISOR-CL)

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)



Features

1 On/Open	Press once and lighting device(s) brighten to full intensity or shades move to open
Raise button/ tilt up	Press and hold for lights to increase in intensity, for shades to open, or for venetian blinds to tilt
3 Lower button/ tilt down	Press and hold for lights to decrease in intensity, for shades to close, or for venetian blinds to tilt
Preset button	Tap once to recall a favorite lighting or shade level
6 Off/Close	Tap once and lighting device(s) will dim to off or shades will close

Available models (434 MHz)







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 XX 1-l01
Light text	PJ-2B-G XX 1-T01
Power icon	PJ-2B-G XX 1-l14

3-button Pico (434 MHz)

Light icon	PJ-3B-G XX 1-101
Light text	PJ-3B-G XX 1-T01

2-button with raise/lower Pico (434 MHz)

Light icon	PJ-2BRL-G XX 1-101
Light text	PJ-2BRL-G XX 1-T01
Shade icon	PJ-2BRL-G XX 1-102
Shade text	PJ-2BRL-G XX 1-T02
Drapery icon	PJ-2BRL-G XX 1-108
Drapery text	PJ-2BRL-G XX 1-T08

3-button with raise/lower Pico (434 MHz)

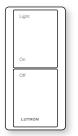
Light icon	PJ-3BRL-G XX 1-101
Light text	PJ-3BRL-G XX¹- T01
Shade icon	PJ-3BRL-G XX 1-102
Shade text	PJ-3BRL-G XX¹- T02
Shade 1 text	PJ-3BRL-G XX¹- T05
Shade 2 text	PJ-3BRL-G XX 1-T06
Screen text	PJ-3BRL-G XX¹- T07
Drape icon	PJ-3BRL-G XX 1-108
Drape text	PJ-3BRL-G XX 1-T08
Blackout text	PJ-3BRL-G XX 1-T09
Sheer text	PJ-3BRL-G XX¹- T10
Blind text	PJ-3BRL-G XX 1-T13

Compatible with Energi TriPak®, GRAFIK Eye® QS, Energi Savr Node™ and RadioRA® 2 systems.

> **XX**¹: 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



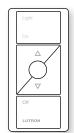
2-button (T01)



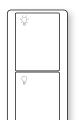
3-button (T01)



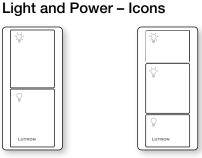
2-button with raise/lower (T01)



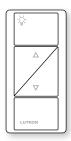
3-button with raise/lower (T01)



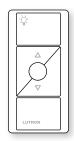
2-button (I01)



3-button (IO1)



2-button with raise/lower (IO1)



3-button with raise/lower (I01)



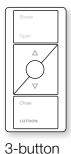
2-button (I14)

Automated Window

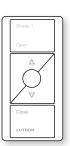
Automated Window Treatments - Text



2-button with raise/ lower-Shade (T02)

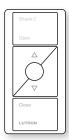


with raise/ lower-Shade (T02)



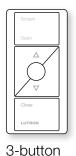
with raise/ lower-Shade 1 (T05)

3-button

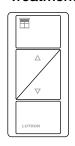


3-button

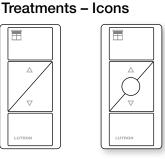
with raise/ lower-Shade 2 (T06)



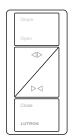
with raise/ lower-Screen (T07)



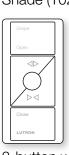
2-button with raise/lower-Shade (I02)



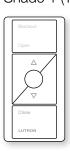
3-button with raise/lower-Shade (I02)



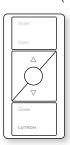
2-button with raise/lower-Drape (T08)



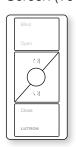
3-button with raise/lower-Drape (T08)



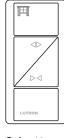
3-button with raise/lower-Blackout (T09)



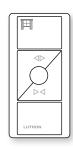
3-button with raise/lower-Sheer (T10)



3-button with raise/lower-Blind (T13)



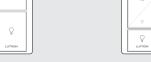
2-button with raise/lower-Drape (108)

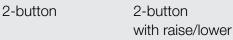


3-button with raise/lower-Drape (108)

Available models (865 MHz, 868 MHz, 868 limited channel MHz, and 434 limited channel MHz)











3-button 3-button

with raise/lower

Model numbers (865 MHz)

2-button Pico (865 MHz)

Light	QSRNP-2-T XX¹⁻1 03
Roller blind	QSRNP-2-T XX 1-104
Curtain	QSRNP-2-T XX¹⁻113

3-button Pico (865 MHz)

Light	QSRNP-3-T XX 1-103
Roller blind	QSRNP-3-T XX 1-104
Curtain	QSRNP-3-T XX¹⁻ I13

2-button Pico with raise/lower (865 MHz)

Light	QSRNP-2R-T XX¹⁻103
Roller blind	QSRNP-2R-T XX¹⁻10 4
Curtain	QSRNP-2R-T XX¹- 113

3-button Pico with raise/lower (865 MHz)

Light	QSRNP-3R-T XX 1-103
Roller blind	QSRNP-3R-T XX¹⁻10 4
Curtain	QSRNP-3R-T XX¹- 113

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

XX¹: 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-T XX 1-103
Roller blind	QSRKP-2-T XX 1-104
Curtain	QSRKP-2-T XX 1-113

3-button Pico (868 MHz)

Light	QSRKP-3-T XX 1-103
Roller blind	QSRKP-3-T XX¹⁻10 4
Curtain	QSRKP-3-T XX¹⁻11 3

2-button Pico with raise/lower (868 MHz)

Light	QSRKP-2R-T XX¹⁻1 03
Roller blind	QSRKP-2R-T XX¹⁻10 4
Curtain	QSRKP-2R-T XX¹⁻11 3

3-button Pico with raise/lower (868 MHz)

Light	QSRKP-3R-T XX¹⁻103
Roller blind	QSRKP-3R-T XX¹⁻10 4
Curtain	QSRKP-3R-T XX¹- 113

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-T XX¹⁻1 03
Roller blind	QSRMP-2-T XX¹⁻1 04
Curtain	QSRMP-2-T XX¹⁻113

2-button Pico with raise/lower (868 limited channel MHz)

Light	QSRMP-2R-T XX 1-103
Roller blind	QSRMP-2R-T XX 1-104
Curtain	QSRMP-2R-T XX¹⁻ 113

3-button Pico with raise/lower (868 limited channel MHz)

Light	QSRMP-3R-T XX 1-103
Roller blind	QSRMP-3R-T XX 1-104
Curtain	QSRMP-3R-T XX 1-113

Compatible with GRAFIK Eye QS and Energi Savr Node, and Energi TriPak® system.

XX1: 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 XX 1-103
Roller blind	QSRQP-2-T XX 1-104
Curtain	QSRQP-2-T XX 1-I13

3-button Pico (434 limited channel MHz)

Light	QSRQP-3-T XX 1-103
Roller blind	QSRQP-3-T XX 1-104
Curtain	QSRQP-3-T XX¹- I13

2-button Pico with raise/lower (434 limited channel MHz)

Light	QSRQP-2R-T XX 1-103
Roller blind	QSRQP-2R-T XX 1-104
Curtain	QSRQP-2R-TXXX1-I13

3-button Pico with raise/lower (434 limited channel MHz)

Light	QSRQP-3R-T XX 1-103
Roller blind	QSRQP-3R-T XX 1-104
Curtain	QSRQP-3R-T XX 1-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

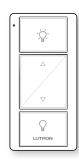
Light - Icons



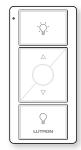




3-button (103)

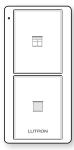


2-button with raise/ lower (103)

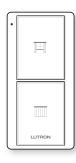


3-button with raise/ lower (103)

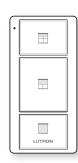
Automated Window Treatments - Icons



2-button— Roller blind (104)



2-button— Curtain (113)



3-button— Roller blind (104)*



3-button-Curtain (113)*

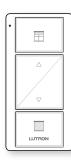


3-button with raise/ lower-Roller blind (104)

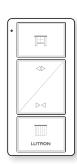


3-button with raise/ lower-Curtain

(113)



3-button with raise/ lower-Roller blind (104)



3-button with raise/ lower-Curtain (113)

*3-button not available in QSRMP-(868 limited channel MHz) models.

XX1: Available in Gloss White (WH), Gloss Black (BL), Matte Arctic White (TAW) or Black (TBL), see pg. 165

Available models (315 MHz)







2-button with raise/lower



3-button



3-button with raise/lower

Model numbers (315 MHz)

Compatible with Energi TriPak system.

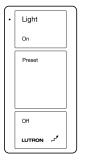
2-button Pico (315 MHz)

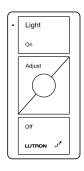
MRF6-2B-L-XX1 Light 3-button Pico (315 MHz) MRF6-3B-L-**XX**¹ Light 2-button Pico with raise/lower (315 MHz) MRF6-2BRL-L-XX1 Light 3-button Pico with raise/lower (315 MHz) MRF6-2BRL-L-XX1 Light

XX1: 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

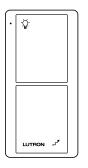


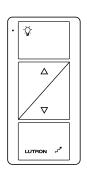


3-button (T01)

3-button with raise/lower (T01)

Light - Icons





2-button (IO1)

2-button with raise/lower (I01)

Model numbers

Pedestal and adapter kit (for all Pico models)

Pico tabletop pedestals

Single pedestal

Dual pedestal

L-PED1-XX¹

L-PED2-XX¹

Triple pedestal

L-PED3-XX¹

Quadruple pedestal

L-PED4-XX¹

Pico wireless control not included with pedestal, order separately.

Adapters

Wallplate adapter PICO-FP-ADAPT

For international wallplate and adapter, call Lutron customer service for details.

Car visor clip

Car visor clip	PICO-CARVISOR-CL
----------------	------------------

XX¹: Available in Gloss White (WH) or Gloss Black (BL), see pg. 165

Sub-controls | RadioRA_® 2 seeTouch_® wireless keypad



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)

Download specification submittal Download high resolution product image Download engraving sheet (button kit)

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

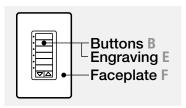
• Width: 2.94 in (75 mm) Height: 4.69 in (119 mm) Depth: 1.06 in (27 mm) Profile: .31 in (8 mm)

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 30ft (9m) of a main or auxiliary repeater
- Operates at 434 MHz band

Available finishes



Use **BOLD** color code in model number (Example: RRD-W6BRL-3P-WH)



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

MRMerlot F

Taupe **B**

Gray E

<u>SI</u> Sienna **F**

Brown B

White E

Terracotta F

Taupe **B**

Gray E

HT Hot F

Taupe B

Gray E

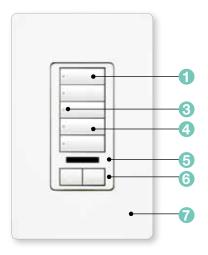
Midnight F, B

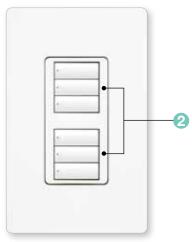
White E

SS Stainless Steel F Black B (default)

White E

Explanation of features





RadioRA 2 wall-mount designer wireless keypad in insert and non-insert styles



Features	
Keypad buttons	 Press to activate desired levels or positions Available with 3, 5, 6, or 7 buttons
2 Dual configuration	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
3 Status LEDs	Indicate which keypad button has been activated
4 Backlit buttons	Easy to read and use in low-light conditions
5 Infrared (IR) receiver (optional)	 Accepts Lutron IR commands from a third-party universal remote* All keypads have IR input on the back of the keypad, which can wire to a remote sensor
6 Raise/lower buttons (optional)	Lights increase or decrease in intensity or shades/draperies move towards the open/close limit
Wallplate	Lutron Claro® wallplate with insert opening must be specified and ordered separately (will not accept standard designer wallplate)

^{*}GRX-IT and GRX-8IT can also be used.

Sub-controls | RadioRA_® 2 seeTouch_® wireless keypad

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

XX1: Gloss and Satin Colors® codes, see pg. 176 (Wallplates not included. Order separately, see pg. 408)

E¹: 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-XX1 Compatible with RadioRA 2 systems.

Keypads with raise/lower

3-button with raise/lower	RRD-W3BRL-XX1
3-button spaced with raise/lower	RRD-W3BSRL-XX1
4-scene with raise/lower	RRD-W4S- XX 1
5-button with raise/lower	RRD-W5BRL-XX1
5-button with raise/lower and IR receiver	RRD-W5RLIR-XX ¹
6-button with raise/lower	RRD-W6BRL-XX1

Compatible with RadioRA 2 systems.

Dual configurations

2-button dual keypad with raise/lower	RRD-W2RLD- XX ¹
2-button with raise/lower and 3-button dual	RRD-W1RLD-XX1
3-button dual	RRD-W3BD- XX 1

Compatible with RadioRA 2 systems.

Engraved replacement kits

2-button with raise/lower and 3-button dual	RKD-W1RLD- XX 1- <u>E</u> 1
2-button dual keypad with raise/lower	RKD-W2RLD- XX 1- E 1
3-button dual	RKD-W3BD- XX 1- <u>E</u>1
3-button with raise/lower	RKD-W3BRL- XX 1- E 1
3-button spaced with	RKD-W3BSRL-XX1-E1
4-scene with raise/lower	RKD-W4S- XX 1- E 1
5-button with raise/lower	RKD-W5BRL-XX1-E1
5-button with raise/lower	RKD-W5RLIR- XX 1- E 1
and IR receiver	
6-button with raise/lower	RKD-W6BRL-XX1-E1
7-button with raise/lower	RKD-W7B- XX 1- E 1

Compatible with RadioRA_® 2 seeTouch_® wireless keypads.

Sub-controls | RadioRA_® 2 tabletop wireless keypad



Shown actual size: 10-button with raise/lower tabletop keypad in Snow (RR-T10RL-SW)

1.00 in $(25 \, \text{mm})$ top depth •

.25 in (82 mm)

.75 in $(18 \, \text{mm})$ bottom depth

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

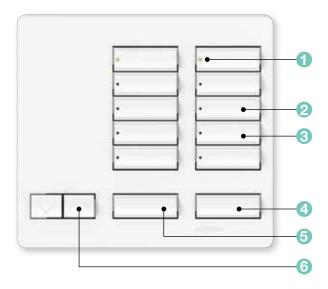
Communication and wiring

- · Communicates via Lutron reliable Clear Connect_® Radio Frequency (RF) technology to other Lutron wireless devices
- Operates at 434 MHz band
- Must be located within 30ft (9m) of a main or auxillary repeater

Download specification submittal Download high resolution product image Download engraving sheet (button kit)

Sub-controls | RadioRA_® 2 tabletop wireless keypad

Explanation of features



10-button with raise/lower tabletop keypad



Features

Status LEDs	Show status of devices being controlled
Keypad buttons	 Press to activate desired light levels or shade positions Available in three rows for 5, 10, or 15 buttons
3 Backlit buttons	Easy to read and use in low-light conditions
4 All Off button	Programmable to turn all lights and shades/ draperies to full off or closed
5 All On button	Programmable to turn all lights and shades/draperies to full on or open
6 Raise/lower buttons	Lights increase or decrease in intensity or shades/draperies move toward the open/close limit

Sub-controls | RadioRA_® 2 tabletop wireless keypad

Available finishes

Satin finishes





<u>SW</u> 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 RR-T5RL-XX¹ and All Off

5-button with raise/lower, All On RR-T5RL-XX1-BA and All Off (for Brazil)

10-button with raise/lower, All On RR-T10RL-XX1 and All Off

10-button with raise/lower, All On RR-T10RL-XX1-BA and All Off (for Brazil)

15-button with raise/lower, All On RR-T15RL-XX1 and All Off

15-button with raise/lower, All On RR-T15RL-XX1-BA and All Off (for Brazil)

Compatible with RadioRA 2 systems.

Engraved replacement kits

RK-T5RL-XX1-E1 5-button with raise/lower. All On and All Off

10-button with raise/lower, All On RK-T10RL-XX1-E1 and All Off

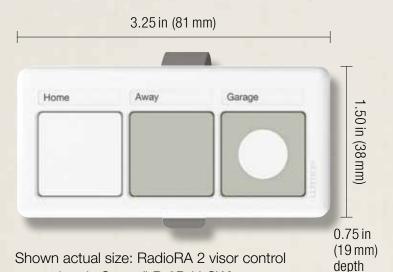
15-button with raise/lower, All On RK-T15RL-XX1-E1 and All Off

Compatible with RadioRA 2 systems.

XX¹: Available in Snow (SW) and Midnight (MN)

E¹: Complete an engraving sheet for each button kit. If no engraving is desired, remove the "-E" from the model number.

Sub-controls | RadioRA_® 2 visor control transmitter



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 150ft (46m) line-of-sight

Related component

transmitter in Snow (LR-3B-H-SW)

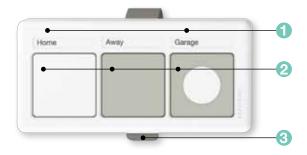


RadioRA 2 visor control receiver, power cord not shown (available separately, see pg. 272)

Download specification submittal Download high resolution product image

Sub-controls | RadioRA_® 2 visor control transmitter

Explanation of features



RadioRA 2 visor control transmitter



Features

1 Labels	Place pre-printed labels in depression to name buttons
Visor control transmitter buttons	 Press to activate functions remotely Combo presses provide up to seven actions
3 Visor clip	Removable clip

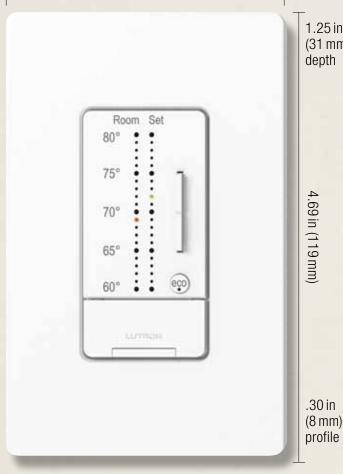
Model numbers

Transmitter (390 MHz)

Car visor transmitter	LR-3B-H-SW
-----------------------	------------

Compatible with RadioRA 2 systems.

2.94 in (75 mm)



Shown actual size: seeTemp wall control (LRD-WST-F-WH) in Fahrenheit configuration and 1-gang Claro wallplate in White (CW-1-WH)

Related components



Wireless wall-mount temperature sensor (available separately, see pg. 242)



HVAC controller (available separately, see pg. 275)

Features and capacities 1.25 in

- (31 mm) 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 30ft (9m) of a repeater

Download specification submittal Download high resolution product image

Available finishes

Use **BOLD** color code in model number (Example: LRD-WST-F-WH)

Gloss finishes*



<u>WH</u> White



LA Light Almond



Almond



<u>IV</u> Ivory



<u>**GR**</u> Gray



Brown



Black

Satin finishes*



<u>SW</u> Snow



Limestone



BI Biscuit



ES Eggshell



<u>PD</u> Palladium



TP Taupe



ST Stone



BG Bluestone



<u>**PL**</u> Plum



TQ Turquoise



<u>GS</u> Goldstone



<u>DS</u> Desert Stone



GB Greenbriar



<u>MS</u> Mocha Stone



TC Terracotta



SI Sienna



<u>HT</u> Hot



MR Merlot



<u>MN</u> Midnight

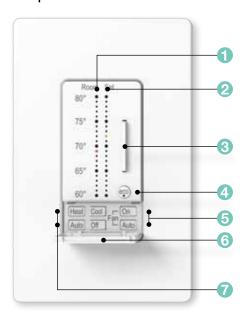


SS ** Stainless Steel (wallplate only)

^{*}Coordinating wallplates only available separately. For wallplate information, see pg. 408.

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

Explanation of features



seeTemp wall control with lid open



Features

Room temperature LEDs	Column of red LEDs that display the current room temperature
2 Set temperature LEDs	 Column of green LEDs that display the current temperature set point Set LED turns off when system is turned off
3 Raise/lower rocker	Press to raise/lower the set temperature point
4 eco button	Press to toggle eco mode on/off
5 Fan buttons	Indicates current fan setting—button will light up orange when selected
6 Flip-down door	Covers the system and fan buttons
System mode buttons	Buttons will light up according to the following: Heat-red, Cool-blue, Auto-orange, Off-orange

Sub-controls | seeTemp_® wall control

Available models



seeTemp wall control

Model numbers

seeTemp wall control

120 V @ 50/60 Hz

24V~Class 2

Fahrenheit model (°F) LRD-WST-F-XX1 LRD-WST-C-XX1 Celsius model (°C)

Compatible with RadioRA 2 systems.

seeTemp wall control packages

120 V @ 50/60 Hz 24V~Class 2

Farenheit package:

LR-HVAC-PKG-WH

1 HVAC controller

1 seeTemp™ wall control (°F) (WH)

1 wireless wall-mount temperature sensor (SW)

1 wired return air duct sensor

Celcius 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.

XX¹: Gloss and Satin color codes, see pg. 185 (Wallplates not included, order separately, see pg. 408)

Sub-controls | TouchPRO Wireless thermostat

6.56 in (167 mm)



Shown above: TouchPRO Wireless thermostat (LR-HWLV-HVAC)

1.44 in $(37 \, \text{mm})$ profile

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)

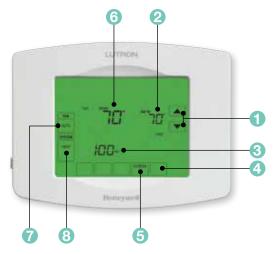
· Mounts using included wall bracket

Communication and wiring

- Requires RadioRA_® 2 repeater
- Must be located within 30ft (9m) of a Lutron RF signal repeater
- · Requires 24V 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

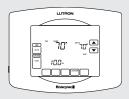


Features

 Press to adjust temperature settings Temperature adjustments Displays temperature set point Current set point Displays current time Current time More Before addressing to a Lutron system press the More button to view the wireless button connection screen Also, the More button can be programmed to cycle through the replacement schedules for the filter pad, UV lamp, and humidity pad Press to lock thermostat keypad for Screen 30 seconds to clean screen cleaning button Displays current inside temperature 6 Current inside temperature Press to select fan operation Fan setting button On—fan is always on Auto—fan runs only when the heating or cooling system is on Press to select system type 8 System setting button Heat—thermostat only controls the heating system Cool—thermostat only controls the cooling system Off —heating and cooling systems are off Auto—thermostat automatically selects heating or cooling depending on indoor temperature. Em Heat—thermostat controls emergency and auxiliary heat (only for heat pumps with auxiliary heat).

Sub-controls | **TouchPRO Wireless**_® **thermostat**

Available models



TouchPRO Wireless thermostat

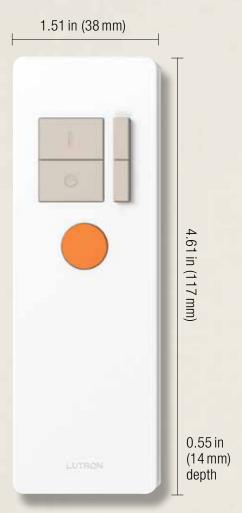
Model numbers

TouchPRO Wireless thermostat

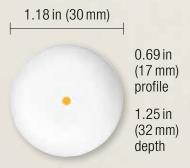
TouchPRO Wireless thermostat LR-HWLV-HVAC

Available exclusively in White.

Sub-controls | EcoSystem_® IR remote control and IR receiver



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: 0.69in (17 mm)

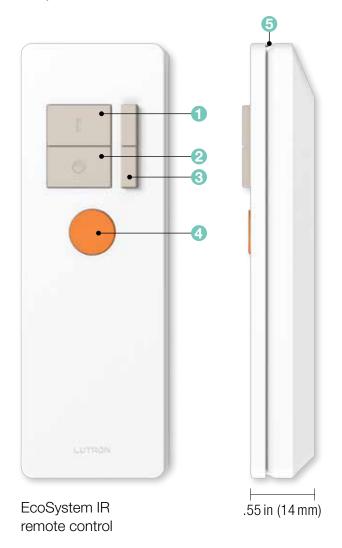
· IR receiver mounts easily to ceiling tiles or fixtures with .38 in (10 mm) diameter hole; IR remote is handheld device

Communication and wiring

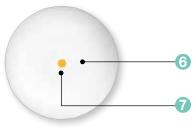
- IR remote control uses IR signals to communicate with the IR receiver
- · IR receiver responds to IR signals from up to 8ft (2.5 m) away when mounted on a 10ft (3m) ceiling
- Total wire length from IR receiver to device must not exceed 100ft (30m)
- IR receiver 20 V DC; IR remote control battery (two 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 reciever 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

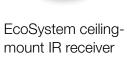
Sub-controls | EcoSystem_® IR remote control and IR receiver

Explanation of features



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
Threaded mounting	Use 3/8-16 nut (provided) for mounting



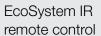




Sub-controls | EcoSystem_® IR remote control and IR receiver

Available models







EcoSystem IR receiver

Model numbers

IR remote control

IR remote control C-FLRC-WH IR receiver IR Receiver EC-IR-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 0–10 V/Energi Savr Node with Softswitch®, Energi Savr Node with EcoSystem (DIN-rail), Energi Savr Node for DALI (DIN-rail), Energi Savr Node for 0-10 V/ 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 infared (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 accomodate a variety of mounting options
- · Self adhesive mounting disc allows for secure mounting to any surface

Communication and wiring

- Operating range: 30ft (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

Sub-controls | QS IR Eye

Model numbers

QS IR Eye

IR Eye QSE-IR-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 0-10 V/Energi Savr Node with Softswitch®, Energi Savr Node with EcoSystem (DIN-rail), Energi Savr Node for DALI (DIN-rail), Energi Savr Node for 0-10 V/ Energi Savr Node for Switching (DIN-rail), and Energi Savr Node Phase Adaptive (DIN-rail).

Sub-controls | Infrared (IR) remote control



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

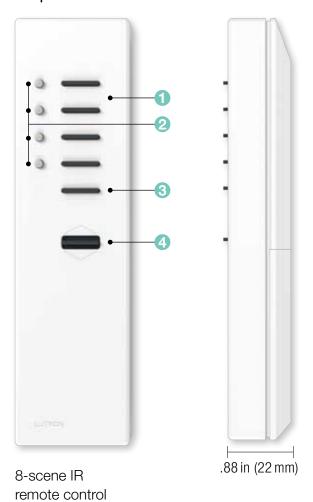
Communication and wiring

- · 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

Sub-controls | Infrared (IR) remote control

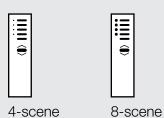
Explanation of features



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

Sub-controls | Infrared (IR) remote control

Available models



Model numbers

IR remote control

4-scene GRX-IT-**XX**1-**E**1 8-scene GRX-8IT-<u>**XX**</u>1-<u>**E**1</u>

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, RadioRA® 2, and Energi Savr Node™ systems.

XX1: White (WH) or Black (BL)

Engraving form required. If engraving not desired, omit "E".

Sub-controls | seeTouch_® QS keypad



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

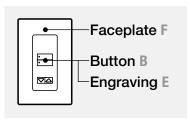
Download specification submittal

Download high resolution product image

Download engraving sheet (Architectural matte and metal finishes)

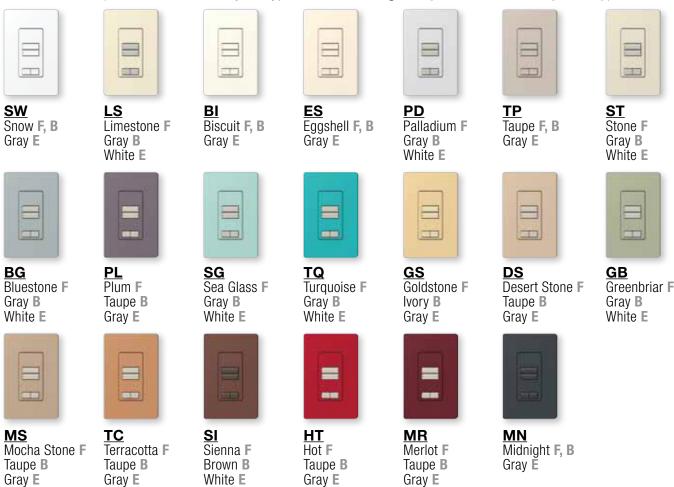
Download engraving sheet (Satin finishes)

Available finishes



Use **BOLD** color code in model number (Example: QSWS2-2BN-**SW**)

Satin finishes (Available for insert style keypads; coordinating faceplates ordered separately)



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 for further information.

Architectural matte finishes (Available for insert and non-insert style keypads; coordinating faceplates included)



<u>WH</u> White **F**, **B** Gray E



<u>LA</u> Light Almond Gray E



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



<u>GR</u> Gray F, B White **E**



<u>BR</u> Brown F, B White E



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



Satin Nickel F Black B White **E**



Antique Bronze F Black B White E



BB Bright Brass F Black B White E



BRA Brass Anodized Aluminum F Black B White E



<u>SB</u> Satin Brass F Black B White **E**

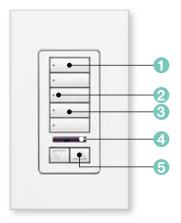


QB Antique Brass F Black B White E

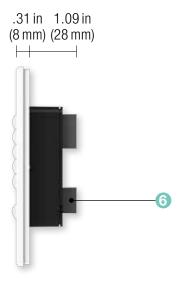


BLA Black Anodized Aluminum F Black B White E

Explanation of features



Insert style 5-button seeTouch QS keypad with IR receiver and raise/lower



Features	
1 Buttons	 Available with 1–7 scene preset options Can also provide zone, partitioning, sequencing, or shade control, and other features
2 Status LEDs	Show which keypad button has been activated
3 Backlit buttons	Easy to read and use in low-light conditions, can be disabled on a button by button basis
4 Infrared (IR) receiver (optional)	Offers convenient control of lights/shades from an IR remote control, seepg. 196
5 Raise/lower buttons	Brightens/dims assigned lighting or raises/lowers assigned shades
6 Dual contact closure inputs	Dual contact closure inputs (CCI) programmable

Sub-controls | seeTouch_® QS keypad

Available models

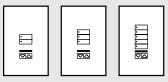
(Available in insert and non-insert styles, non-insert style shown)



1, 2, 3, 5, 7-button



2, 3, 5-button with raise/lower (model numbers on following page)



2, 3, 5-button with infrared receiver and raise/lower (model numbers on following page)



Dual configurations (model numbers on following page)

Model numbers

Keypads

1	۱_	hı	ıtto	٦n
	_	υL	4 L L \	JII

Node™ systems.

Dutton	
Non-insert style	QSWS2-1BN- XX 1- EEE 1
Insert style	QSWS2-1BI-XX ² -EEE ¹
2-button	
Non-insert style	QSWS2-2BN- XX 1- EEE 1
Insert style	QSWS2-2BI- XX ²- EEE ¹
3-button	
Non-insert style	QSWS2-3BN-XX1-EEE1
Insert style	QSWS2-3BI- XX ²- EEE ¹
5-button	
Non-insert style	QSWS2-5BN-XX1-EEE1
Insert style	QSWS2-5BI-XX ² -EEE ¹
7-button	
Non-insert style	QSWS2-7BN- XX 1- EEE 1
Insert style	QSWS2-7BI-XX ² -EEE ¹
Compatible with GRAFIK Eye® QS and Energi Savr	

XX¹: Architectural matte and metal color codes, see pg. 201

XX²: Architectural matte, metal and Satin Colors® codes, see pgs. 200-201 (Coordinating faceplates not included with Satin colors, order separately, see pg. 408)

EEE¹: Engraving codes, see pgs. 436-437

Keypads with raise/lower

2-button with raise/lower

Non-insert style	QSWS2-2BRLN-XX1-EEE1
Insert style	QSWS2-2BRLI- XX ²- EEE ¹

3-button with raise/lower

Non-insert style	QSWS2-3BRLN- \underline{XX}^1 - \underline{EEE}^1
Insert style	QSWS2-3BRLI-XX2-EEE1

5-button with raise/lower

Non-insert style	QSWS2-5BRLN-XX1-EEE1
Insert style	QSWS2-5BRLI-XX2-EEE1

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

Keypads with infrared (IR) receiver and raise/lower

2-button with IR receiver and raise/lower

Non-insert style	QSWS2-2BRLIRN- XX^1 - EEE^1
Insert style	QSWS2-2BRLIRI-XX ² -EEE ¹

3-button with IR receiver and raise/lower

Non-insert style	QSWS2-3BRLIRN-XX1-EEE1
Insert style	QSWS2-3BRLIRI- XX 2- EEE 1

5-button with IR receiver and raise/lower

Non-insert style	QSWS2-5BRLIRN-XX1-EEE1
Insert style	QSWS2-5BRLIRI-XX ² -EEE ¹
Compatible with GR	AFIK Eye QS and Energi Savr

Node systems.

Dual configuration keypads

Dual 2-button with raise/lower

Non-insert style	QSWS2-2RLDN- XX 1- EEE 1
Insert style	QSWS2-2RLDI- XX ² - EEE ¹
Dual 3-button and 2-b	utton with raise/lower

Non-insert style	QSWS2-1RLDN-XX1-EEE1
Insert style	QSWS2-1RLDI-XX2-EEE1

Dual 3-button

Non-insert style	QSWS2-3BDN-XX1-EEE1
Insert style	QSWS2-3BDI- <u>XX</u> 2- <u>EEE</u> 1

Compatible with GRAFIK Eye QS and Energi Savr Node systems.

XX¹: Architectural matte and metal color codes, see pg. 201

XX²: Architectural matte, metal and Satin color codes, see pgs. 200-201

EEE¹: Engraving codes, see pgs. 436-437 (Faceplates ship with matte and metal finishes, but should be ordered separately for satin finish keypads)

Faceplate kits

1-button	
Non-insert style	QSWS2R-1BN-XX1-EEE1
Insert style	QSWS2R-1BI- XX ²- EEE ¹
2-button	
Non-insert style	QSWS2R-2BN-XX1-EEE1
Insert style	QSWS2R-2BI- XX ² - EEE ¹
3-button	
Non-insert style	QSWS2R-3BN-XX1-EEE1
Insert style	QSWS2R-3BI- XX ²- EEE ¹
5-button	
Non-insert style	QSWS2R-5BN-XX1-EEE1
Insert style	QSWS2R-5BI- XX ² - EEE ¹
7-button	
Non-insert style	QSWS2R-7BN-XX1-EEE1
Insert style	QSWS2R-7BI-XX ² -EEE ¹
Includes faceplate, buttons (when applicable) Compatible with see Touch	
Compatible with seeTouch	I QS keypads.

Faceplate kits with raise/lower

2-button with raise/lower

Non-insert style	QSWS2R-2BRLN-XX1-EEE1
Insert style	QSWS2R-2BRLI-XX ² -EEE ¹

3-button with raise/lower

Non-insert style	QSWS2R-3BRLN- \underline{XX}^1 - \underline{EEE}^1
Insert style	QSWS2R-3BRLI-XX2-EEE1

5-button with raise/lower

Non-insert style	QSWS2R-5BRLN-XX1-EEE1
Insert style	QSWS2R-5BRLI- XX 2- EEE 1

Includes faceplates, buttons and insert.

(when applicable)

Compatible with seeTouch QS keypads.

Faceplate kits with infrared (IR) receiver and raise/lower

A I II		-			. ,	•
ソーわいせんの	WITH	10	racallar	α nd	raica/	IOWOR
2-button	VVILII	111	ICCCIVCI	ancı	10155/	IC WEI

Non-insert style	QSWS2R-2BRLIRN-XX1-EEE1
Insert style	QSWS2R-2BRLIRI-XX2-EEE1

3-button with IR receiver and raise/lower

Non-insert style	QSWS2R-3BRLIRN-XX1-EEE1
Insert style	QSWS2R-3BRLIRI-XX ² -EEE ¹

5-button with IR receiver and raise/lower

Non-insert style	QSWS2R-5BRLIRN-XX1-EEE1
Insert style	QSWS2R-5BRLIRI-XX ² -EEE ¹

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	$QSWS2R\text{-}2RLDN\text{-}\underline{\boldsymbol{XX}^1}\text{-}\underline{\boldsymbol{EEE}^1}$
Insert style	QSWS2R-2RLDI-XX2-EEE1

Dual 3-button and 2-button with raise/lower

Non-insert style	QSWS2R-1RLDN-XX1-EEE1
Insert style	QSWS2R-1RLDI-XX ² -EEE ¹

Dual 3-button

Non-insert style	QSWS2R-3BDN- XX 1- EEE 1
Insert style	QSWS2R-3BDI-XX ² -EEE ¹

Includes faceplates, buttons and insert.

(when applicable)

Compatible with seeTouch QS keypads.

XX¹: Architectural matte and metal color codes, see pg. 201

XX²: Architectural matte, metal and Satin color codes, see pgs. 200-201

EEE¹: Engraving codes, see pgs. 436-437 (Faceplates ship with matte and metal finishes, but should be ordered separately for satin finish keypads)

Button kits

1-button	
Non-insert style	QSWS2B-1BN-XX1-EEE1
Insert style	QSWS2B-1BI- XX 2- EEE 1
2-button	
Non-insert style	QSWS2B-2BN-XX1-EEE1
Insert style	QSWS2B-2BI-XX ² -EEE ¹
3-button	
Non-insert style	QSWS2B-3BN-XX1-EEE1
Insert style	QSWS2B-3BI- XX 2- EEE 1
5-button	
Non-insert style	QSWS2B-5BN-XX1-EEE1
Insert style	QSWS2B-5BI- XX 2- EEE 1
7-button	
Non-insert style	QSWS2B-7BN-XX1-EEE1
Insert style	QSWS2B-7BI-XX ² -EEE ¹
Compatible with seeTo	ouch QS kevpads.

Button kits with raise/lower

2-button with raise/lower

Non-insert style	QSWS2B-2BRLN-XX1-EEE1
Insert style	QSWS2B-2BRLI- XX 2- EEE 1

3-button with raise/lower

Non-insert style	QSWS2B-3BRLN- XX 1- EEE 1
Insert style	QSWS2B-3BRLI-XX ² -EEE ¹

5-button with raise/lower

Non-insert style	QSWS2B-5BRLN-XX1-EEE1
Insert style	QSWS2B-5BRLI-XX ² -EEE ¹

Compatible with seeTouch QS keypads.

Button kits with infrared (IR) receiver and raise/lower

~ 1 11					. ,	•
') hutton	with	ı	ragalijar	and	raica/	IOMAC
2-button	vviiii	10	receivei	ann	14150	IC)VV

Non-insert style	QSWS2B-2BRLIRN-XX1-EEE1
Insert style	QSWS2B-2BRLIRI-XX ² -EEE ¹

3-button with IR receiver and raise/lower

Non-insert style	QSWS2B-3BRLIRN-XX1-EEE1
Insert style	QSWS2B-3BRLIRI- XX 2- EEE 1

5-button with IR receiver and raise/lower

Non-insert style	QSWS2B-5BRLIRN-XX1-EEE1
Insert style	QSWS2B-5BRLIRI-XX2-EEE1
Compatible with so	oTouch OS kovpade

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	QSWS2B-1RLDN-XX1-EEE1
Insert style	QSWS2B-1RLDI-XX ² -EEE ¹

Dual 2-button with raise/lower

Non-insert style	QSWS2B-2RLDN- XX 1- EEE 1
Insert style	QSWS2B-2RLDI-XX2-EEE1

Dual 3-button

Non-insert style	QSWS2B-3BDN-XX1-EEE1
Insert style	QSWS2B-3BDI-XX ² -EEE ¹

Compatible with seeTouch QS keypads.

XX¹: Limited architectural matte finishes, see pg. 201 for corresponding button colors

XX²: Limited gloss, architectural matte and satin color finishes, see pg. 200 for corresponding button colors

EEE¹: Engraving codes, see pgs. 436-437

Sub-controls | International seeTouch_® QS wallstation

3.38 in (86 mm)



Shown actual size: Non-insert style International seeTouch 8-button keypad with infrared receiver and raise/lower in White (QSWE-8BRLIRN-AW)

1.06 in depth

3.38 in (86 mm)

.31 in

(8 mm) profile

Features and capacities

- (27 mm) · 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
 - Models available with group control settings for a single shade or multiple shades
 - · Coordinating faceplate included

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)

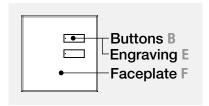
 May be mounted in a 1.40 in round backbox, used in Europe

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

Download specification submittal Download high resolution product image 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



<u>AR</u> Argentum F Black B White E



<u>MC</u> Mica F Black B White E

Metal finishes



SN Satin Nickel F Black B White E



BNBright Nickel F Black B White E



SB Satin Brass F Black B White E



BBBright 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



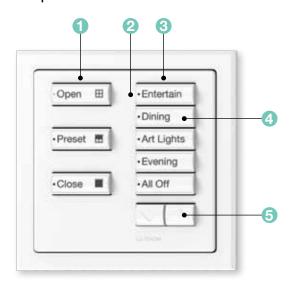
AU Gold Plated F Black B White E

Bold color code indicates faceplate color. Models include button kit in coordinating colors as shown.

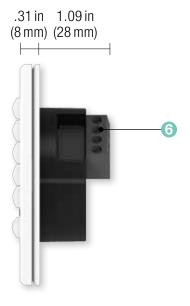
Text engraving color varies by button color. Lighter colored buttons use gray text and darker colored buttons use white text. Visit www.lutron.com/engraving for further information.

Sub-controls | International seeTouch_® QS wallstation

Explanation of features



Insert style 8-button International seeTouch QS wallstation with raise/lower



Features

i cataloo	
1 Preset buttons for shades*	Enable user to control one shade or group of shades
2 Status LEDs	Show which keypad button has been activated
3 Preset buttons for lights*	Enable user to control a light or group of lights
4 Backlit buttons	Easy to read and use in low-light conditions; can optionally be disabled on a button-by-button basis
5 Raise/lower buttons	Brighten/dim all assigned lighting or raise/lower all assigned shades
6 Dual contact closure inputs	Dual contact closure inputs (CCI) programmable

^{*} Diagram shows custom engraving. Note that buttons can be alternately programmed to perform other functions such as zone control, partitioning, sequencing, and others.

Sub-controls | International seeTouch® QS wallstation

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 infrared receiver and raise/lower

Dual 3-button with raise/lower

Model numbers

Wallstations

2-button

Non-insert style	QSWE-2BN-XX1-EEE1
Insert style	QSWE-2BI- XX 1- EEE 1
3-button	
Non-insert style	QSWE-3BN-XX1-EEE1
Insert style	QSWE-3BI-XX1-EEE1
4-button	
Non-insert style	QSWE-4BN-XX1-EEE1
Insert style	QSWE-4BI-XX1-EEE1
'	K Eye® QS and Energi Savr
Node™ systems.	

Wallstations with raise/lower

5-button with raise/lower

Non-insert style	QSWE-5BRLN- XX 1- EEE 1
Insert style	QSWE-5BRLI-XX1-EEE1

7-Button with raise/lower

Non-insert style	QSWE-7BRLN-XX1-EEE1
Insert style	QSWE-7BRLI-XX1-EEE1

8-button with raise/lower

Non-insert style	QSWE-8BRLN-XX1-EEE1
Insert style	QSWE-8BRLI-XX1-EEE1

10-button with raise/lower

Non-	insert st	tyle	C	SWE-	10BRLN	1- <u>XX</u> 1-	EEE1
Inser	t style			QSWE	-10BRL	- <u>XX</u> 1-	EEE1
$\overline{}$		200					

Compatible with GRAFIK Eye QS and Energi Savr Node systems.

 $\underline{\boldsymbol{X}}\underline{\boldsymbol{X}}^{1}\!\!:\!$ Matte, metallic and metal color codes,

see pg. 208

EEE¹: Engraving codes, see pgs. 436-437

Wallstations with infrared (IR) receiver and raise/lower

5-button with IR receiver and raise/lower

Non-insert style	QSWE-5BRLIRN- \underline{XX}^1 - \underline{EEE}^1
Insert style	QSWE-5BRLIRI-XX1-EEE1

8-button with IR receiver and raise/lower

Insert style	QSWE-8BRLIRI-XX1-EEE1
Non-insert style	QSWE-8BRLIRN-XX ¹ -EEE ¹

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-XX1-EEE1
Insert style	QSWE-6BRLI-XX1-EEE1
Compatible with GRAF	TIK Eye QS and Energi Savr
Node systems.	

Faceplate kits

\circ	ا		ı	_	
2-	D	u	ш	O	n

Non-insert style	QSWER-2BN-XX1-EEE1
Insert style	QSWER-2BI-XX1-EEE1
3-button	
Non-insert style	QSWER-3BN-XX1-EEE1
Insert style	QSWER-3BI-XX1-EEE1
4-button	
Non-insert style	QSWER-4BN-XX1-EEE1
Insert style	QSWER-4BI-XX1-EEE1

Includes faceplate, buttons and insert (when applicable).

Compatible with International seeTouch QS wallstations.

XX¹: Matte, metallic and metal color codes,

see pg. 208

EEE¹: Engraving codes, see pgs. 436-437

Faceplate kits with raise/lower

5-button with raise/lower

Non-insert style	QSWER-5BRLN- XX^1 - EEE^1
Insert style	QSWER-5BRLI-XX1-EEE1

7-button with raise/lower

Non-insert style	QSWER-7BRLN-XX1-EEE1
Insert style	QSWER-7BRLI-XX1-EEE1

8-button with raise/lower

Non-insert style	QSWER-8BRLN-XX1-EEE1
Insert style	QSWER-8BRLI-XX1-EEE1

10-button with raise/lower

Non-insert style	QSWER-10BRLN-XX1-EEE1
Insert style	QSWER-10BRLI-XX1-EEE1

Includes faceplate, buttons and insert (when applicable).

Compatible with International seeTouch QS wallstations.

Faceplate kits with IR receiver and raise/lower

5-button with IR receiver and raise/lower

Non-insert style	QSWER-5BRLIRN-XX1-EEE1
Insert style	QSWER-5BRLIRI-XX1-EEE1

8-button with IR receiver and raise/lower

Non-insert style	QSWER-8BRLIRN-XX1-EEE1
Insert style	QSWER-8BRLIRI-XX1-EEE1

Includes faceplate, buttons and insert (when applicable).

Compatible with International see Touch 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-XX1-EEE1
Insert style	QSWER-6BRLI-XX1-EEE1

Includes faceplate, buttons and insert

(when applicable).

Compatible with International seeTouch QS wallstations.

Button kits

2-button

Non-insert style	QSWEB-2BN-XX1-EEE1
Insert style	QSWEB-2BI-XX1-EEE1
3-button	
Non-insert style	QSWEB-3BN-XX1-EEE1
Insert style	QSWEB-3BI-XX1-EEE1
4-button	
Non-insert style	QSWEB-4BN-XX1-EEE1
Insert style	QSWEB-4BI-XX1-EEE1
Compatible with Interna	ational seeTouch QS wallstations.

Button kits with raise/lower

5-button with raise/lower

Non-insert style	QSWEB-5BRLN-XX1-EEE1
Insert style	QSWEB-5BRLI-XX1-EEE1

7-button with raise/lower

Non-insert style	QSWEB-7BRLN- XX^1 - EEE^1
Insert style	QSWEB-7BRLI-XX1-EEE1

8-button with raise/lower

Non-insert style	QSWEB-8BRLN-XX1-EEE1
Insert style	QSWEB-8BRLI-XX1-EEE1

10-button with raise/lower

Non-insert style	QSWEB-10BRLN-XX1-EEE1
Insert style	QSWEB-10BRLI-XX1-EEE1
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-XX1-EEE1
Insert style	QSWEB-5BRLIRI-XX1-EEE1

8-button with IR receiver and raise/lower

Non-insert style	QSWEB-8BRLIRN-XX1-EEE1
Insert style	QSWEB-8BRLIRI-XX1-EEE1
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-XX1-EEE1
Insert style	QSWEB-6BRLI-XX1-EEE1

Compatible with International see Touch QS wallstations.

XX1: Available in Arctic White (AW) and

Black (BL)

EEE¹: Engraving codes, see pgs. 436-437

Sub-controls | QS keyswitch

2.72 in (69 mm)

Shown actual size: QS keyswitch in White (QSWS2-KSN3MOC-WH)

Features and capacities

1.77 in $(45 \, \text{mm})$

depth

.57 in (116 mm)

0.28 in

(7 mm)profile

- Provides key-only access to QS lighting controls, ideal for public spaces
- Supports the following functionalities
 - 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 faceplace included

Dimensions and mounting

• Width: 2.72 in (69 mm) Height: 4.57 in (116 mm) Depth: 1.77 in (45 mm) Profile: 0.28 in (7 mm)

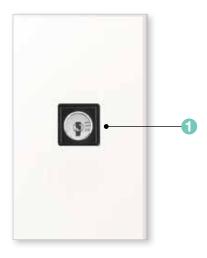
Mounts in a standard 1-gang U.S. backbox

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

Download specification submittal Download engraving sheet

Explanation of features



Non-insert style QS keyswitch

Features

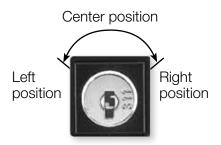


Available finishes

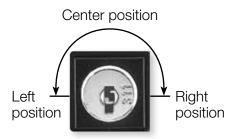
Use **BOLD** color code in model number (Example: QSWS2-KS3IMOC-WH)

Architectural matte finishes

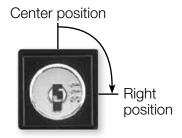




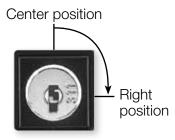
3MOC: 3-position momentary; center position key removal ± 45° travel



3MAC: 3-position Maintained; center position key removal ± 90° travel



2MAC: 2-position Mmaintained; center position key removal ± 90° travel



2MAA: 2-position maintained; any position key removal ± 90° travel

Sub-controls | **QS keyswitch**

Available models

(Available in insert and non-insert styles, non-insert style shown)



Keyswitch

Model numbers

Keyswitch

Node™ systems.

Non-insert style	QSWS2-KS3NMOC- <u>XX</u> 1- <u>E1</u>
Insert style	QSWS2-KS3IMOC-XX1-E1
3-position maintaine	ed; center position key removal
Non-insert style	QSWS2-KS3NMAC- XX 1- <u>E</u> 1
Insert style	QSWS2-KS3IMAC- XX 1- <u>E</u> 1
2-position maintaine	ed; center position key removal
•	
Non-insert style	QSWS2-KS2NMAC-XX1-E
Non-insert style Insert style	· — —
Insert style	QSWS2-KS2NMAC- XX 1- E QSWS2-KS2IMAC- XX 1- E ed; any position key removal
Insert style	QSWS2-KS2IMAC- XX 1- E

XX¹: Architecural matte color codes, see pg. 215 (1-gang wallplate included)

E1: Engraving form required. If engraving not desired, omit "E".

Sub-controls | Pico_® wired control



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

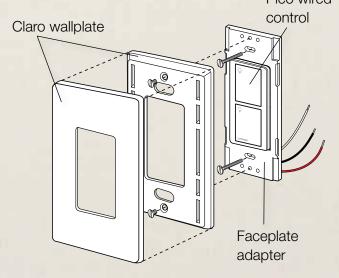
Dimensions and mounting

 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 500ft (153 m)
- 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 Pico wired



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



<u>IV</u> 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

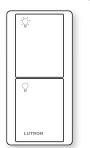


3-button Light (I01) labeling

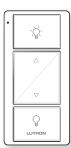


3-button with raise/lower Light (I01) labeling

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

Sub-controls | Pico_® wired control

Available models







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**XX**¹-I01 2-button with raise/lower PX-2BRL-G**XX**¹-I01 3-button PX-3B-G**XX**¹-I01 3-button with raise/lower PX-3BRL-G**XX¹-**I01

Compatible with GRAFIK Eye® QS and Energi Savr

Node™ systems.

XX¹: Available in limited gloss finishes, White/ Gray (WG), White (WH), Light Almond (LA), Ivory (IV), and Black (BL)

Sub-controls | EcoSystem_® wallstation

2.94 in (75 mm)



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

1.45 in

depth

4.69 in (119 mm)

.31 in

(8 mm)

profile

(37 mm) • 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 infared 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

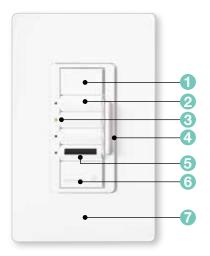
- Total wire length from control to device must not exceed 100ft (30m)
- · Designed to connect directly to an EcoSystem ballast or module (with sensor inputs), QS sensor module or Energi Savr Node module via low-voltage IEC PELV/NEC Class 2 wiring
- Does not connect to QS link directly
- The QS link 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)



4-button EcoSystem wallstation



Features

reatures	
1 On button	All On button (programmable)
2 Preset buttons	Four buttons each recall lighting presets
3 Status LEDs	Indicate control is functioning
4 Dimming rocker	Raise/lower lights
5 Infrared receiver	Allows wireless connectivity to handheld infrared remotes (maximum 10ft)
6 Off button	All Off button (programmable)
Wallplate	Lutron Claro wallplate (not included)

Available finishes

Gloss finishes









<u>IV</u> Ivory

Sub-controls | EcoSystem_® wallstation

Available model

(Available as insert style only)



4-button

Model numbers

Wallstation

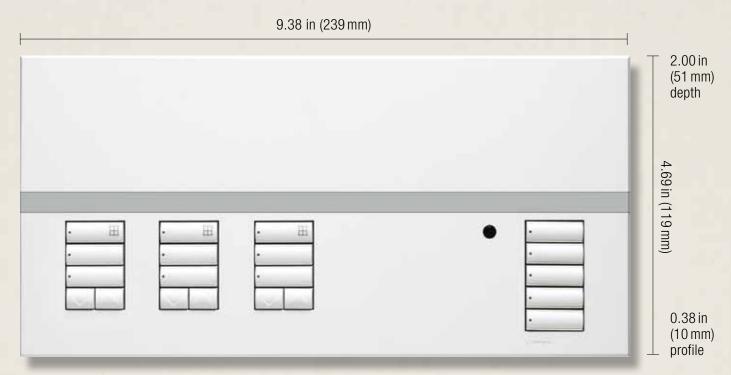
4-button with raise/lower

CC-4BRL-XX1

Compatible with GRAFIK Eye $_{\!\scriptscriptstyle \odot}$ QS and Energi Savr Node $_{\!\scriptscriptstyle \mathsf{TM}}$ systems.

XX1: 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, 240 V~ @ 50/60 Hz 75 mA
- A QS system can have up to 100 QS devices each QS timeclock counts as one device toward the limit

Download specification submittal



Features

Shade control buttons	Each shade control has open, preset, close raise/lower
2 Astronomic timeclock	 Add up to 25 events per day/entire week, afterhours capabilities
3 Information display/user interface	Timeclock information
4 Programming buttons	Standard programming
5 USB port	Advanced programming

Sub-controls | **QS timeclock**

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

Wireless



Radio Powr Savr_{TM} 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



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)

Additional components



Power packs (required for wired sensors) pg. 260



Infrared partition status sensor pg. 261

vacancy sensor



Shown above: Radio Powr Savr ceiling-mount wireless occupancy/vacancy sensor - 434 MHz in White (LRF2-OCR2B-P-WH)

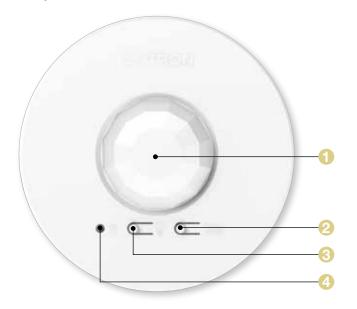
- · Simple installation with no wiring
- Passive infrared (PIR) with exclusive Lutron XCT™ technology for fine motion detection
- Occupancy/vacancy has auto-on/auto-off, manual-on/auto-off or auto-on low light/ auto-off control (lowlight not supported when connected to system via QS sensor module
- · 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 8–12ft (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)

- Diameter: 3.57 in (91 mm) Depth: 1.13 in (29 mm)
- Mount within 60ft (18m) line-of-sight or 30ft (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)

- 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
 ø 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



Radio Powr Savr ceiling-mount wireless occupancy/vacancy sensor



Features

1 Sensor lens	Lens will illuminate orange in response to test mode
2 Sensor test button	Lens will illuminate in response to motion; tests placement and coverage
3 Lights on/off button	Signals load control to turn on/off; tests RF range
4 Service opening	Used by service personnel for remote system configuration

Radio Powr Savr™ ceiling-mount occupancy/ vacancy sensor

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)

LRF4-OCRB-P-WH Occupancy/vacancy

Ceiling-mount (865 MHz)

Occupancy/vacancy LRF5-OCR2B-P-WH

Ceiling-mount (315 MHz)

LRF6-OCR2B-P-WH Occupancy/vacancy

Ceiling-mount (434 limited channel MHz)

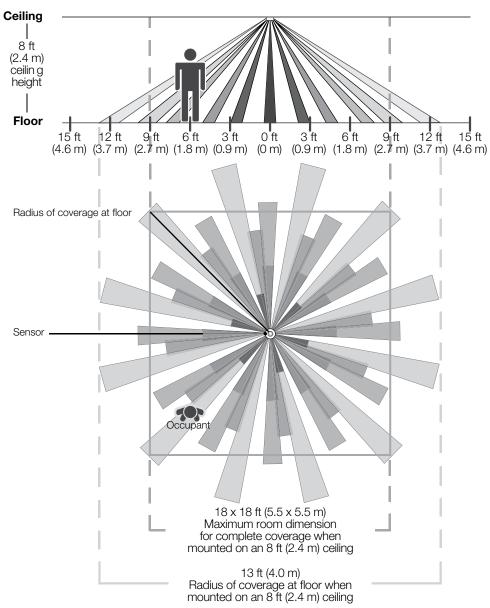
LRF7-OCR2B-P-WH Occupancy/vacancy

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* 8ft (2.4m) ceiling shown



Detection range for fine motion

	Maximum room dimensions	
Ceiling height	for complete floor coverage	Square feet
8ft (2.4 m)	18 × 18ft (5.5 × 5.5 m)	324 ft ² (30.2 m ²)
9ft (2.7 m)	20 × 20 ft (6.1 × 6.1 m)	400 ft ² (37.2 m ²)
10ft (3.0m)	22 × 22 ft (6.7 × 6.7 m)	484 ft² (44.9 m²)
12ft (3.7 m)	26 × 26 ft (7.9 × 7.9 m)	676 ft² (62.4 m²)

*Gray shaded areas in the above illustration represent sensor detection areas.

Radio Powr Savr™ wall-mount occupancy/vacancy sensor



Shown actual size: Radio Powr Savr wall-mount wireless occupancy/vacancy sensor - 434 MHz in White (LRF2-OWLB-P-WH)

- 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

Download specification submittal Download high resolution product image

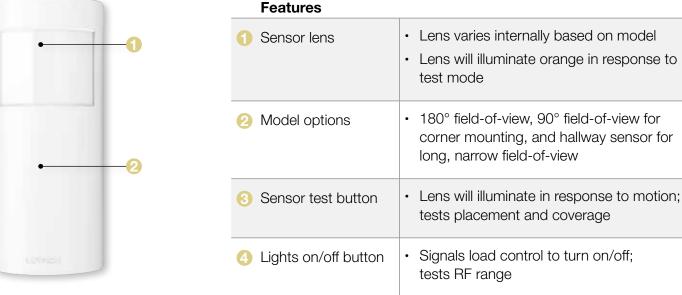
- Timeout options include: 1 minute, 5 minutes, 15 minutes and 30 minutes
- Recommended mounting height 6–8 ft (1.8–2.4 m) from floor
- Multiple sensors can be added for extended coverage—refer to product specification submittals of receiving device to determine system limits
- · For indoor use only temperature: 32°F-104°F (0°C-40°C)
- Battery included; 10-year battery life design
- Available in White (WH)

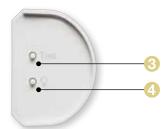
- Width: 1.8 in (46 mm) Height: 4.35 in (110 mm) Depth: 1.35 in (34 mm)
- Mount within 60ft (18m) line-of-sight or 30ft (9m) through walls, of the receiving devices
- Temporary mounting hardware (included) allows for optimum sensor placement and coverage
- · Mounts on wall, not in wallbox

- 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
 ø 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



Radio Powr Savr wall-mount wireless occupancy/vacancy sensor





1.35 in (34 mm)



Available models Wall (180°) Wall (180°) occupancy/ vacancy only vacancy Corner (90°) Corner (90°) occupancy/ vacancy only vacancy Hallway Hallway occupancy/ vacancy only vacancy

Model numbers

180° wall mount (434 MHz)

Wireless occupancy/vacancy sensors

LRF2-OWLB-P-WH
LRF2-VWLB-P-WH
ed channel MHz)
LRF7-OWLB-P-WH
LRF2-OKLB-P-WH
LRF2-VKLB-P-WH
d channel MHz)
LRF7-OKLB-P-WH

Hallway (434 limited channel MHz)

Occupancy/vacancy

Vacancy only

• (,
Occupancy/vacancy	LRF7-OHLB-P-WH
Compatible with Energi TriPa	ak®, GRAFIK Eye® QS,
Energi Savr Nodem and Rad	lioRA 2® systems.

LRF2-OHLB-P-WH LRF2-VHLB-P-WH

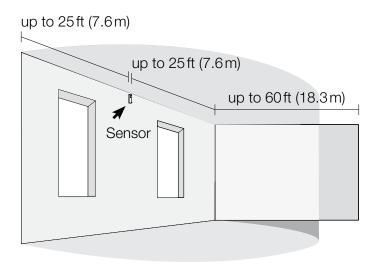
For specific radio frequency information by country, refer to radio frequency chart on pg. 461.

Typical mounting illustrations

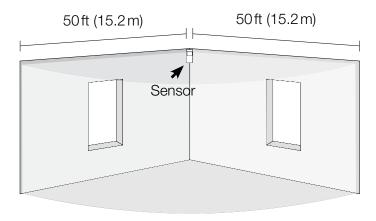
For illustration purposes only.

Consult specific coverage pattern (pgs. 224-226) to determine appropriate location.

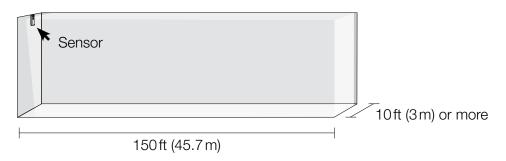
180° field-of-view wall-mount sensor



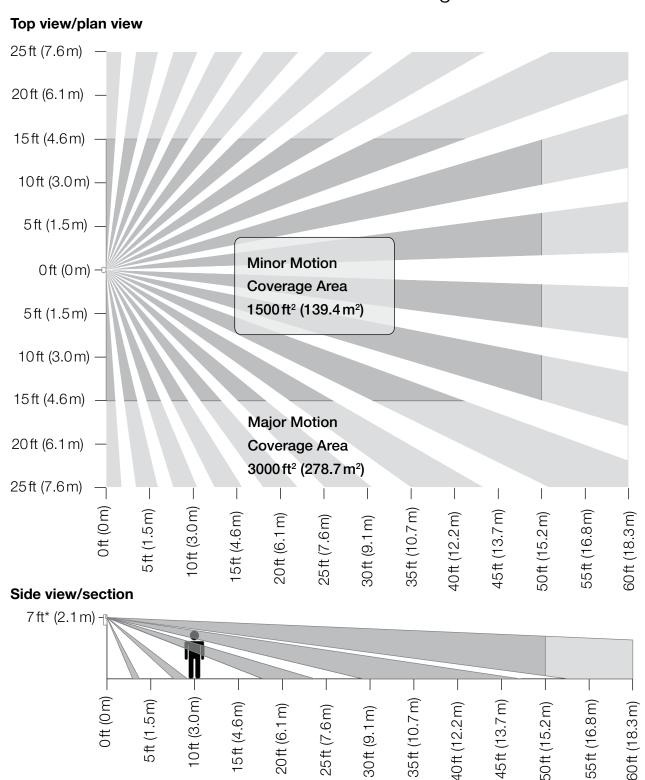
90° field-of-view corner-mount sensor



Hallway long, narrow field-of-view sensor

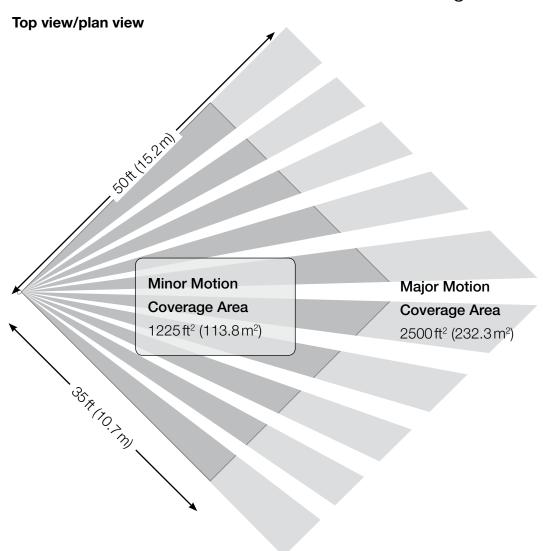


180° field-of-view wall-mount sensor coverage

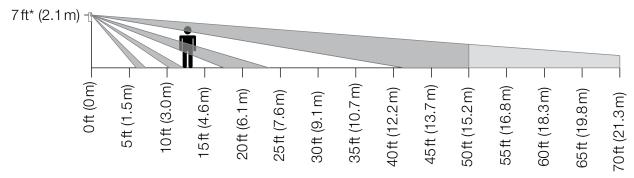


*Sensor mounting shown at 7 ft. (2.1 m), mounting height should be between 6 ft and 8 ft (1.6-2.4 m).

90° field-of-view corner-mount sensor coverage



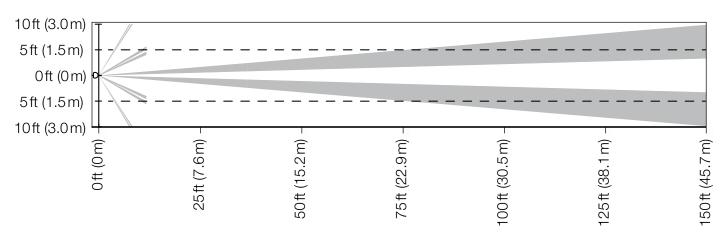
Side view/section



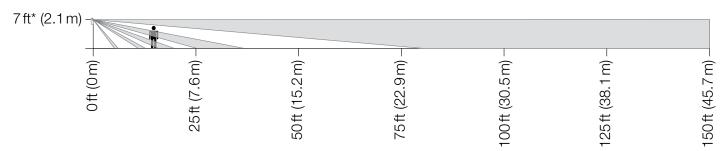
*Sensor mounting shown at 7 ft. (2.1 m), mounting height should be between 6 ft and 8 ft (1.6-2.4 m).

Hallway sensor coverage

Top view/plan view



Side view/section



Hallway version with coverage of up to 150ft (45.7 m)

Maximum recommended hallway length

Width of Hall	Length of Hall
6ft (1.6m) or less	50ft (15.2 m)
8ft (2.4 m)	100ft (30.5 m)
10ft (3.06m) or more	150ft (45.7 m)

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

Radio Powr Savr™ ceiling-mount daylight sensor



0.70 in $(17 \, \text{mm})$ depth

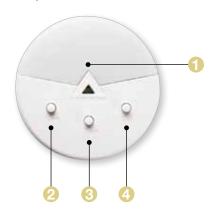
Shown actual size: Radio Powr Savr wireless daylight sensor – 434 MHz in White (LRF2-DCRB-WH)

- · 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

- Diameter: 1.60 in (41 mm); Depth: 0.70in (17 mm)
- Mount within 60ft (18m) line-of-sight or 30ft (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

- 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

Download specification submittal Download high resolution product image



Radio Powr Savr wireless daylight sensor



Features

1 Sensor lens	Arrow points toward the area viewed by the sensor
2 Link button	Association and programming
3 Sensor test button	Tests system functionality
4 Calibration button	Press to calibrate system automatically

Model numbers

Wireless daylight sensors

Ceiling-mount (434 MHz)

Celling-Indunt (434 Min 12)	
Daylight	LRF2-DCRB-WH
Ceiling-mount (868 MHz) (CE)	
Daylight	LRF3-DCRB-WH
Ceiling-mount (868 limited ch	annel 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 ch	annel 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:

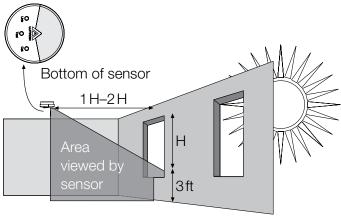
- Place the daylight sensor so the viewing area is centered on the nearest window at a distance from the window of one to two times the effective window height (H)
- The effective window height (H) starts at the window sill or 3ft (1 m) up from the floor, whichever is higher, and ends at the top of the 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

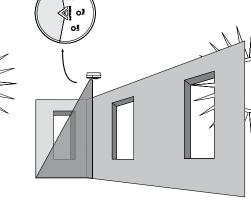
Location for average size areas

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

Location for narrow areas (corridors, private offices)

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





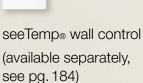
H = Effective Window Height

Wall-mount temperature sensor



Shown actual size: Wireless wall-mount temperature sensor in Snow (LRF2-TWRB-SW)







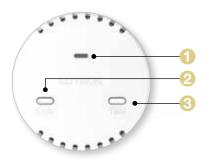
HVAC controller (available separately, see pg. 275)

- 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

- 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

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to HVAC controller
- · Typical range is 30ft 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

Download specification submittal Download high resolution product image



Wireless wall-mount temperature sensor



Features

1 Status LED	Amber LED provides feedback during association and commissioning
2 Link button	Assigns sensor with HVAC controller
3 Test button	Press to test system functionality

Available finishes

Satin finishes







MN Midnight

Model numbers

Temperature sensors

Wall-mount

Wireless, 434 MHz

LRF2-TWRB-XX1

Compatible with RadioRA® 2.

XX¹: Available in Snow (SW) and Midnight (MN)

1.18 in (30 mm)



0.69 in $(17 \, \text{mm})$ profile

1.25 in $(32 \, \text{mm})$ depth

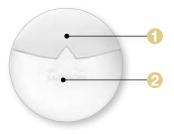
Shown actual size: Daylight sensor in White (EC-DIR-WH)

- · 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)

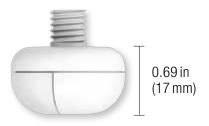
 Diameter: 1.18 in (30 mm) Depth: 1.25 in (32 mm); Profile: 0.69 in (17 mm)

- · 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

- 20 V DC
- Total wire length from sensor to device must not exceed 100ft (30m)
- · Infared (IR) receiver receives IR programming signals from up to 8ft (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



EcoSystem® wired daylight sensor



Feature

1 Sensor lens	Arrow points toward the area viewed by the daylight sensor
2 IR receiver	Receives and transfers IR receivers

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

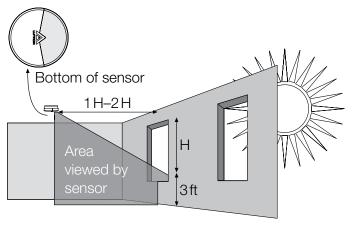
- · Place the daylight sensor so the viewing area is centered on the nearest window at a distance from the window of one to two times the effective window height (H)
- The effective window height (H) starts at the window sill or 3ft (1 m) up from the floor, whichever is higher, and ends at the top of 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

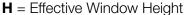
Location for average size areas

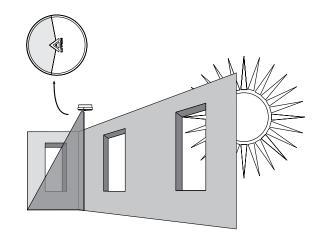
Arrow points toward the area viewed by the sensor (toward windows)

Location for narrow areas (corridors, private offices)

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







LOS-C series ceiling-mount occupancy sensor





Shown above: Wired, ceiling-mount dual technology sensor in White (LOS-CDT-2000-WH)

- 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 ft² – 2000 ft² (137 m² – 610 m²) mounted at 8 ft to 12 ft (2.4 m - 3.6 m) from floor

Download specification submittal for **LOS-CIR Series**

Download specification submittal for **LOS-CDT Series**

Download specification submittal for **LOS-CUS Series**

- 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)

- Width: 4.50 in (114 mm) Depth: 1.40in (38 mm)
- · Snap-locks to ceiling-mounted cover plate

- 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



Features

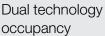
1 Green LED	Indicates when ultrasonic motion is detected
2 Red LED	Indicates when infrared (IR) is detected

Wired ceiling-mount dual technology sensor



Available models







Passive infared occupancy



Ultrasonic occupancy

Model numbers

Wired, ceiling-mount occupancy sensors

Dual technology

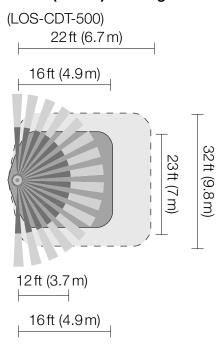
2,000 ft² (610 m²), 360°	LOS-CDT-2000-WH
Additional contact closure	LOS-CDT-2000R-WH
1,000 ft² (305 m²), 180°	LOS-CDT-1000-WH
Additional contact closure	LOS-CDT-1000R-WH
500 ft ² (152 m ²) 180°	LOS-CDT-500-WH
Additional contact closure	LOS-CDT-500R-WH
Ultrasonic	
2,000 ft² (610 m²), 360°	LOS-CUS-2000-WH
1,000 ft² (305 m²), 180°	LOS-CUS-1000-WH
500 ft² (152 m²), 180°	LOS-CUS-500-WH
Passive infrared	
1,500 ft² (457 m²), 360°	LOS-CIR-1500-WH
450 ft ² (137 m ²), 360°	LOS-CIR-450-WH

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

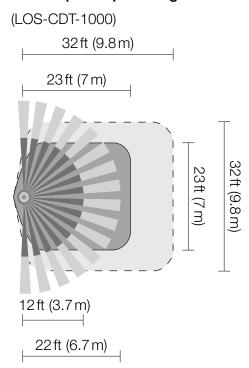
Dual technology sensor coverage chart

LOS-CDT models (3 models available)

Top view/Plan view 500 ft² (152 m²) coverage

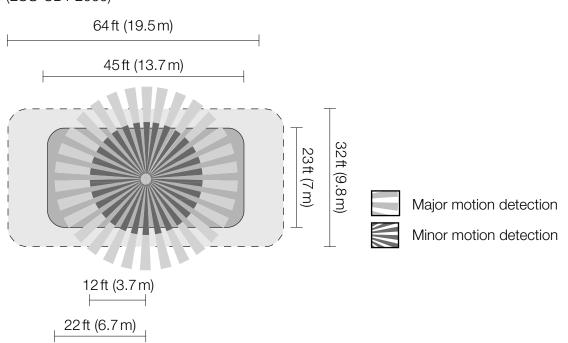


1000 ft2 (305 m2) coverage



2000 ft² (610 m²) coverage

(LOS-CDT-2000)

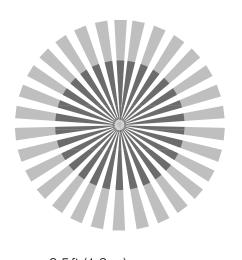


Passive infrared sensor coverage chart

LOS-CIR models (2 models available)

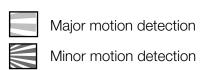
Top view/Plan view 450 ft² (137 m²) coverage

(LOS-CIR-450)

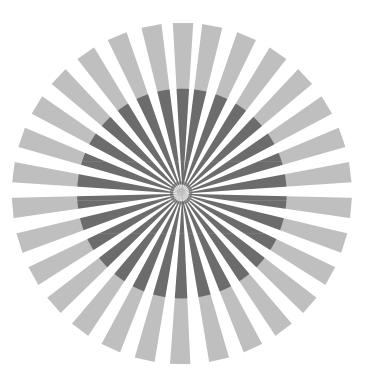


6.5ft (1.9 m)

12ft (3.7 m)



1500 ft² (457 m²) coverage (LOS-CIR-1500)



12ft (3.7 m)

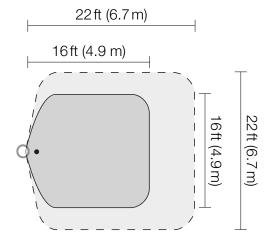
22 ft (6.7 m)

Ultrasonic sensor coverage chart

LOS-CUS models (3 models available)

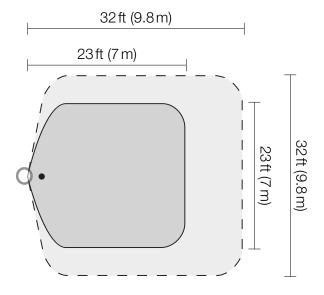
Top view/Plan view 500 ft² (152 m²) coverage

(LOS-CUS-500)



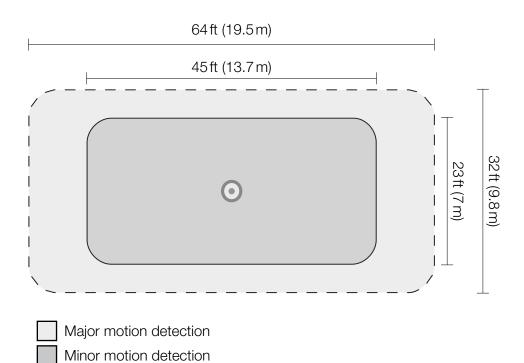
1000 ft² (305 m²) coverage

(LOS-CUS-1000)



2000 ft² (610 m²) coverage

(LOS-CUS-2000)





Shown above: Wired wall-mount dual technology sensor in White (LOS-WDT-R-WH)

- · 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

Download specification submittal for **LOS-WIR Series**

Download specification submittal for **LOS-WDT Series**

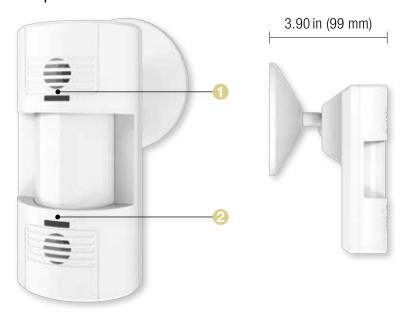
- Coverage of 1600 ft² (488 m²) mounted at 8ft to 12ft (2.4-3.7 m) from floor
- 110° field-of-view
- Models available with additional dry contact closures
- Available in White (WH)
- For indoor use only, temperature: 32°F–104°F (0°C-40°C)

- Width: 2.70 in (69 mm) Height: 5.25 in (133 mm) Depth: 3.90in (99 mm)
- Flexible base allows mounting on wall or ceiling

- 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

LOS-W series wall-mount occupancy sensor

Explanation of features



Features

1 LED indicator	Green LED indicates when ultrasonic motion is detected
2 Red LED	Red LED indicates when infrared (IR) is detected

Wired wall-mount dual technology sensor

Available models







Dual technology, self-adaptive occupancy

Model numbers

Wired wall occupancy sensor

Dual technology

1,600 ft ² (488 m ²), 110°	LOS-WDT-WH
Additional contact closure	LOS-WDT-R-WH

Passive infrared

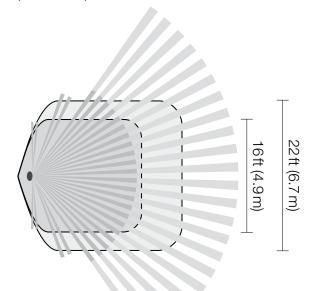
1,600 ft ² (488 m ²)	_OS-WIR-WH
---	------------

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, GRAFIK Eye QS with DALI, Energi Savr Node™ with EcoSystem, Energi Savr Node for 0-10 V/Energi Savr Node with Softswitch®, Energi Savr Node with EcoSystem (DIN-rail), Energi Savr Node for DALI (DIN-rail), Energi Savr Node for 0-10 V/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)



6.5ft (1.9m)

12ft (3.7 m)

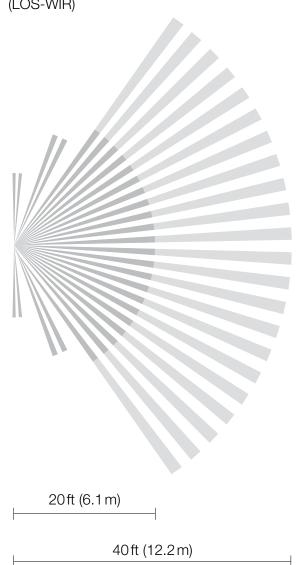
Major motion detection

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)

- 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 50ft (15 m) coverage radius and the 360° models feature 1,450 ft² (135 m²) coverage
- Timeout options include 4, 8, 16 and 30 minutes
- Available in White (WH)
- For indoor use, temperature: 32°F-149°F $(0^{\circ}C - 65^{\circ}C)$

Download specification submittal Download high resolution product image

- 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)

- 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

Explanation of features



Features

1 Lens	Models available with 180° or 360° area lens
2 Technology	Passive infrared, designed to detect major motion

360° end-mount high-bay occupancy sensor



Available models







180° end-mount



360° end-mount

Model numbers

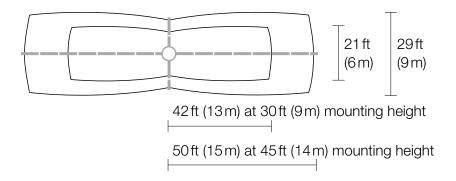
Wired high-bay occupancy sensor

180° surface-mount LUT-WSPSM24V-180-CPN6111 360° surface-mount LUT-WSPSM24V-360-CPN6111 180° end-mount LUT-WSPEM24V-180-CPN6112 360° surface-mount FHB140NP24V-CPN5190

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

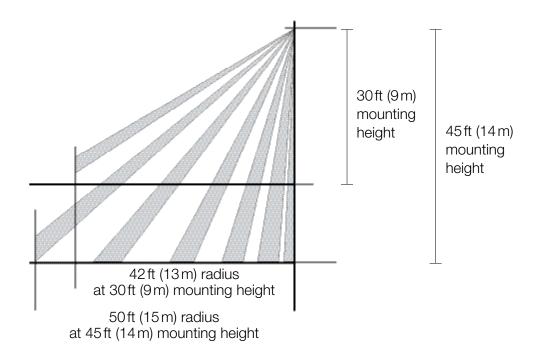
180° high-bay sensor coverage chart

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

3.69 in (94 mm)



Shown above: Wired power pack (PP-120H)

Power packs

120 VAC @ 60 Hz	PP-120H
230 VAC @ 50/60 Hz	PP-230H
277 VAC @ 60 Hz	PP-277H
347 VAC @ 60 Hz	PP-347H
Auxiliary relay	PP-SH

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

- 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 120 VAC, 230 VAC (CE), 277 VAC, and 347 VAC
- Relay contact rating: 20 A: 120/230/277 V ballast 15 A: 347 V 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

 Width: 3.69 in (94 mm) Height: 2.33 in (59 mm) Depth: 1.36in (35mm)

· Unit can be placed outside or inside the junction box with a simple nut-twist

- Approved for installation in spaces designed for air handling per NEC article 300.22(c)
- 24 VDC, 100 mA power output

Infrared partition status sensor



Shown above: Infrared partition status sensor (one of a pair) (GRX-IRPS-WH)



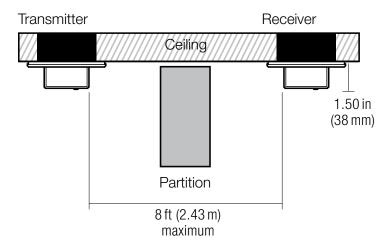
- Infrared transmitter/receiver pair detects partition movement and coordinates lighting preset functions
- Automatically combines lighting preset functions when partition is open creating one large space
- Lighting preset functions become independent as partition is closed creating several smaller spaces
- Requires contact closure input/output interface or QS seeTouch_® keypad for operation

- Width: 4.56 in (159 mm) Height: 2.69 in (68 mm) Depth: 1.50in (38 mm)
- · 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 8ft (243 mm) apart
- Adjustable mounting brackets allow easy alignment during installation

- 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

Infrared partition status sensor

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

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



QS contact closure input/output interface pg. 280



QS RS232/Ethernet interface pg. 282



QS DMX control interface pg. 284



Emergency lighting interface pg. 286



QS motor group controller pg. 288



Energi Savr Nodem programming interface pg.290

^{*}For third party integration in RadioRA 2 systems use main repeater, see pg. 66.

Control interfaces | PowPak_® contact closure output module

3.42 in

ı (87 mm)

depth



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: 24 V AC/DC
- Maximum load of 1 A @ 24V AC or 0.5 A @ 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

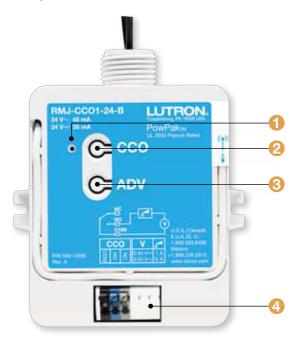
Communication and wiring

- 24 V AC or 24 V DC, 434 MHz frequency
- 24 V AC or 24 V DC, 434 MHz limited channel
- 24V AC or 24V DC, 868 MHz limited channel
- RF range of 30ft (9 m)

Download specification submittal Download high resolution product image

Control interfaces | PowPak_® contact closure output module

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
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	z 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	n Energi TriPak® system	

For specific voltage by country information refer to voltage chart on pg. 458.

Control interfaces | RadioRA_® 2 main and auxiliary repeater

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 60ft (18m) between repeaters and 30ft (9m) to other devices, with a total possible coverage area of approximately 2,500 sqft (232 sqm) per repeater



4.25 in (108mm)

Shown above: RadioRA 2 main repeater (RR-MAIN-REP-WH)

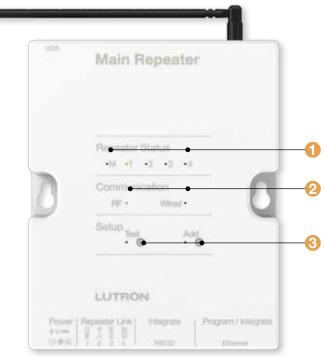
Also available



Auxiliary repeater

Download specification submittal 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

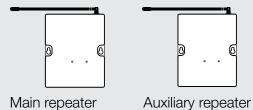
Features

Repeater Status LEDs	Displays the status of the repeaters in the system
2 RF and wired LEDs	 Displays the transmit/ receive activity on the RF and wired links (Green = Tx, Orange = Rx)
3 Test and Add buttons	Press and hold to enter the system into Test mode or Add mode

4 Power jack	Powered by 9V DC adapter (included)
5 Wired repeater link terminal blocks	• Maximum 1000ft (305m)
6 RJ145 port (Ethernet)	Used for programming and integrationMaximum 328ft (100 m)
7 RS232 port	Used for integration onlyMaximum 50ft (15 m)

Control interfaces | RadioRA_® 2 main and auxiliary repeater

Available models



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



Control interfaces | RadioRA_® 2 visor control receiver

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)

Visor Control Receiver Inputs Security Input Outputs Keypad .25 in (133 mm) 1.06 in LUTRON $(27 \, \text{mm})$ Power Inputs Outputs depth

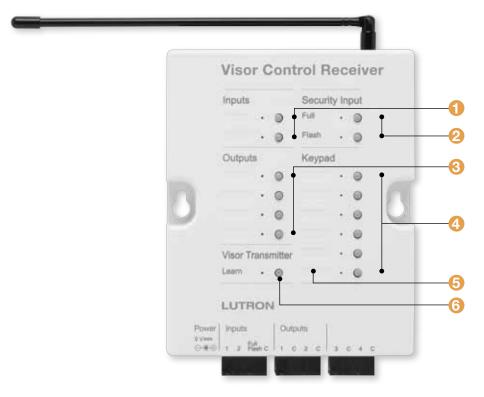
4.25 in (108 mm)

Shown above: RadioRA 2 visor control receiver (RR-VCRX-WH)



Download specification submittal Download high resolution product image

Explanation of features



RadioRA 2 visor control receiver



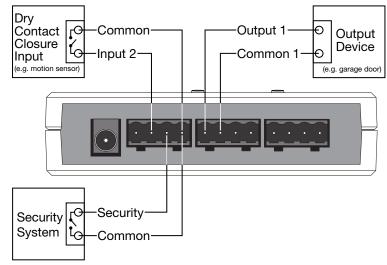
Features

1 Input buttons	Press to test CCI programming
Security input buttons	Press and hold to test security programming
3 Output buttons	Press to test CCOs
4 Keypad buttons	Press to test keypad programming
5 Labels	Place pre-printed or custom labels in depression to identify keypads/inputs/outputs

6 Learn button	 Press and hold for three seconds to enter learn mode—learn any button from transmitter to receiver
Contact closure terminal blocks	Maximum 50 ft (15 m)
8 Power jack	Powered by 9 V DC adapter (supplied)

Control interfaces | RadioRA_® 2 visor control receiver

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 30ft (9 m) of a main or auxilliary repeater
- Wires to and is powered by HVAC equipment using standard 24V 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)

HVAC Controller HVAC System Status -W1 •W2 •G •Y1 •Y2 Remote Sensor Status Active . Battery Low . Setup Test LUTRON RoRh Power HVAC Out - Hy Juntum 24V-HAT THE RESIDENCE OF THE REAL PROPERTY.

.25 in (133 mm)

1.06 in

 $(27 \, \text{mm})$

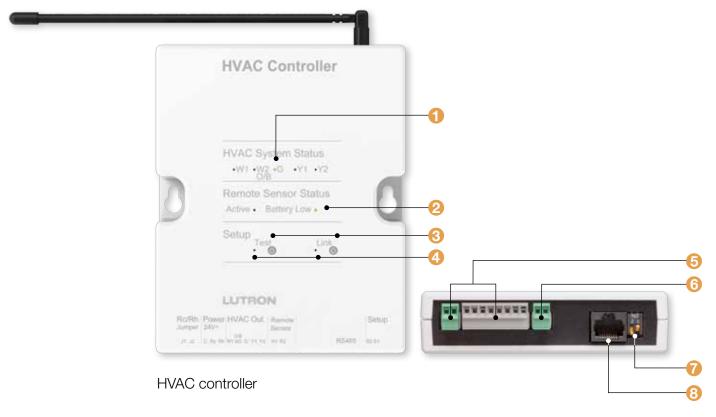
depth

4.25 in (108mm)

Shown above: HVAC controller available only in a package

Download specification submittal Download high resolution product image

Explanation of features



Features

HVAC system status LEDs	Indicate the status of the control outputs— when an LED is lit the corresponding relay is closed
2 Temperature sensor status LEDs	 Battery low—indicates low battery for at least one sensor Active—LED is lit when at least one sensor is active
3 Test and link buttons	Used to set up and troubleshoot the RF connection
4 Test and link LEDs	Flashes green to indicate that the system is in Test mode or Link mode

5 HVAC equipment connections	24 V HVAC relays to control HVAC equipment
6 Wired sensor input	Wired connection for backup temperature sensor
7 System type DIP switches	Must be configured to correctly control attached HVAC equipment
8 RJ145 port (Ethernet)	Used for programming and integrationMaximum 328 ft (100 m)





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**

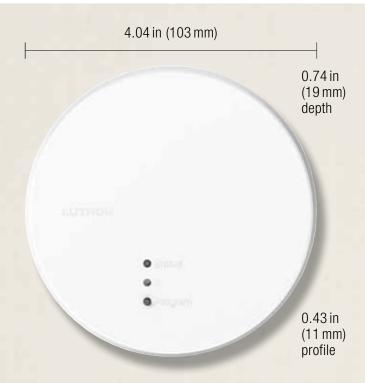
1 wired flush mount sensor**

Compatible with RadioRA 2 system.

* Available in Snow (SW) and Midnight (MN).

** Only available in White (WH).

Control interfaces | QS sensor module



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: 60ft (18m) line of sight, or 30ft (9m) 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

Download specification submittal

Control interfaces | QS sensor module

Model numbers

Wired and wireless inputs

Wired and Wireless inputs	
North America (434 MHz)	QSM2-4W-C
For J-box mounting	QSM2-4W-J
European Union and	QSM3-4W-C
U.A.E.(868 MHz)	
China and Singapore	QSM4-4W-C
(868 MHz limited channel)	
Hong Kong	QSM7-4W-C
(434 MHz limited channel)	
Wireless inputs only	
North America (434 MHz)	QSM2-XW-C
For J-box mounting	QSM2-XW-J
European Union and	QSM3-XW-C
U.A.E.(868 MHz)	
China and Singapore	QSM4-XW-C
(868 MHz limited channel)	
India (865 MHz)	QSM5-XW-C
Hong Kong	QSM7-CW-C
(434MHz limited channel)	
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.

Control interfaces | QS contact closure input/output interface

4.26 in (108 mm)



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 24 V DC

Dimensions and mounting

- Width: 4.26in (108mm) 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

Control interfaces | QS Contact closure input/output interface

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.

Control interfaces | QS RS232/Ethernet interface

4.26 in (108 mm)



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 24 V DC

Dimensions and mounting

- Width: 4.26in (108mm) 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

Control interfaces | QS RS232/Ethernet interface

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.

Control interfaces | QS DMX control interface

4.26 in (108 mm)



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 24 V DC

Dimensions and mounting

- Width: 4.26in (108mm) 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

Control interfaces | QS DMX control interface

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.

Control interfaces | Emergency lighting interface

7.75 in (197 mm)

2.50 in

(64 mm) depth

5.00 in (127 mm)



Shown above: Emergency lighting interface (LUT-ELI-3PH)

Features and capacities

- Turns all lighting loads to "full on" output (interface does not provide emergency power)
- Designate which lighting loads turn on and the level the loads turn on to when utilizing Energi Savr Nodetm
- · UL924 Listed as "Emergency Lighting and Power Equipment"
- · Senses the normal (non-essential) line voltage on all phases of normal power. When one or more phases of power are lost, the interface will send a signal to the GRAFIK Eye® QS main unit or Energi Savr Node module with emergency (essential) power, causing it to enter the emergency lighting mode.
- Sense voltage range: 100–347 V @ 50/60 Hz, 30 mA, 1 Phase or 3 Phase
- Status indicator indicates the phase status; indicator ON is normal mode, OFF is emergency mode
- · A test switch is provided to perform a functional test of the system by simulating an emergency situation
- · Provides inputs for a Fire Alarm Control Panel (FACP); a maintained dry contact closure received between the FACP inputs will actuate the emergency mode
- · For more information on the emergency lighting interface see application note #106 at www.lutron.com/applicationnotes

Control interfaces | Emergency lighting interface

Dimensions and mounting

 Width: 5.00 in (127 mm) Height: 7.75 in (197 mm) Depth: 2.50 in (64 mm)

 Mounts to a standard 4 in (102 mm) x 4 in (102 mm) 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

Emergency lighting interface

LUT-ELI-3PH

Compatible with GRAFIK Eye QS and

Energi Savr Node systems.

Control interfaces | QS motor group controller



Shown above: QS motor group controller (QSE-CI-4M-D)

2.40 in (61 mm) depth

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; 1.5 A maximum motor load per channel, 6A maximum total input current
- Operating voltage: 120–240 V (CE) @ 50/60 Hz

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

Control interfaces | QS motor group controller

Model numbers

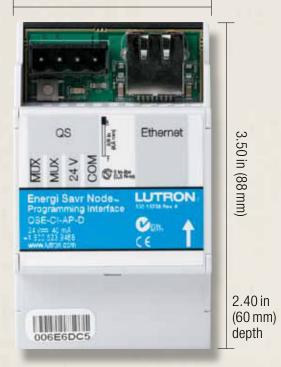
QS motor group controller (DIN-rail)

QS motor group controller (DIN-rail) QSE-CI-4M-D 120-240 V (CE)

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

Control interfaces | Energi Savr Nodem programming interface

2.10 in (53 mm)



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 devices1
- Requires wireless router (by others)
- Operates at 24 V DC

Dimensions and mounting

- Width: 2.10in (53mm) 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 device¹ 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

Download specification submittal

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

Model numbers

Programming interfaces

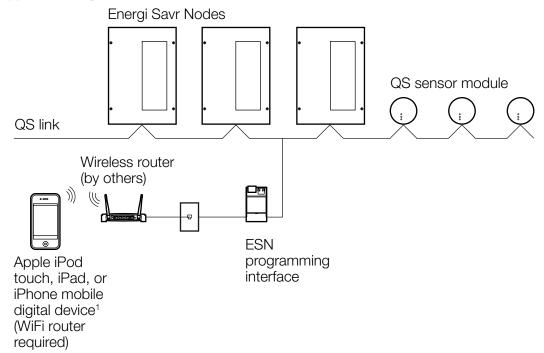
Programming interface

QSE-CI-AP-D

Required when programming the following systems with software for Apple® iPod touch®, iPad®, or iPhone® mobile digital device1:

- Energi Savr Node for 0–10 V/Energi Savr Node with Softswitch®
- Energi Savr Node for 0–10 V/ Energi Savr Node for Switching (DIN-rail)
- Energi Savr Node Phase Adaptive

Typical wiring overview



¹iPhone, 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

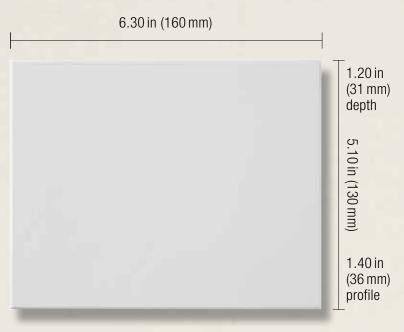
pg.308



EcoSystem fixture module

pg.316

Power interfaces | Phase-adaptive power module



Shown above: Phase-adaptive power module (PHPM-PA-120-WH)

Direct lighting loads

Incandescent/halogen

Electronic low-voltage

Magnetic low-voltage

Neon/cold cathode

Operating voltages ²

- Models available to accept 120V or 100V (Japan) control power
- Models available for 120 V, 120-277 V or 100-200 V load power
 - ¹ Visit **www.lutron.com/LEDtool** for a complete list of LEDS compatible with this module.
 - ² Contact Lutron for model availability for 277 V 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: 6.30in (160mm) Height: 5.10 in (130 mm) Depth: 1.20in (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 4in (102 mm) x 4in (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® (NEC) article 300.22 (c)

Related components:



Power booster for 220-240V applications (available separately, see pg. 302)

Power interfaces | Phase-adaptive power module

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

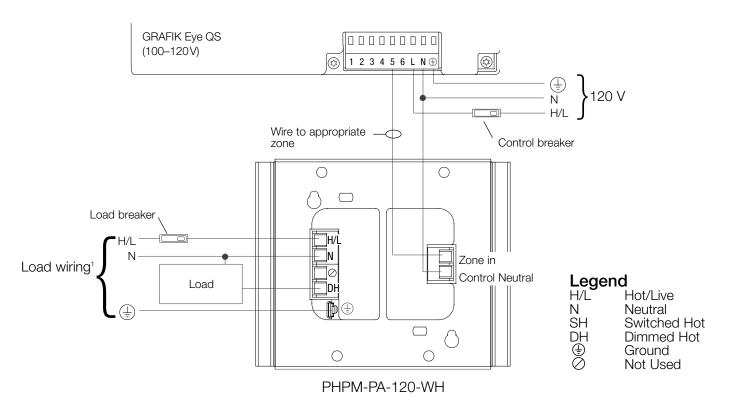
Model numbers

Modules

Phase-adaptive 120V	PHPM-PA-120-WH
Dual voltage phase-adaptive 120–277 V	PHPM-PA-DV-WH
Phase-adaptive	PHPM-PA-JA-WH
100-200 V for Japan	
0 05451175	00 0045045 00

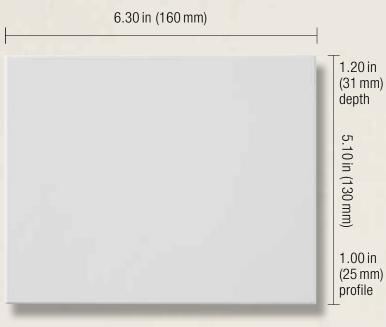
Compatible with GRAFIK Eye QS, GRAFIK Eye QS with EcoSystem®, and RadioRA® 2 hybrid keypad.

Typical multiple power feed wiring with a GRAFIK Eye QS system



¹Load feed: 120 V for PHPM-PA-120-WH; 120 V-277 V for PHPM-PA-DV-WH; 100 V-200 V for PHPM-PA-JA-WH

Power interfaces | 3-wire fluorescent power module



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

Power interfaces | 3-wire fluorescent power module

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

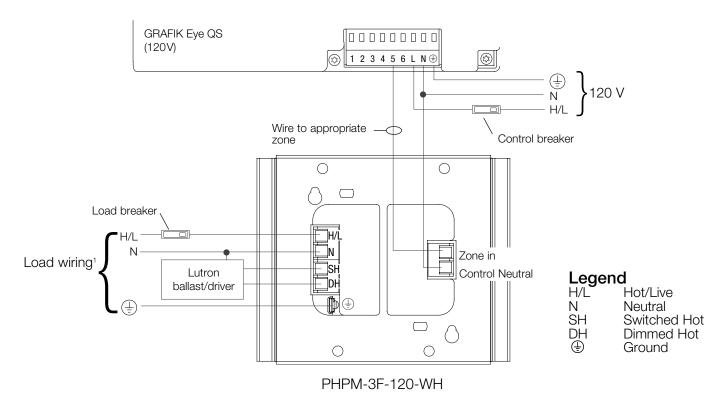
Modules

3-wire fluorescent PHPM-3F-120-WH 120 V

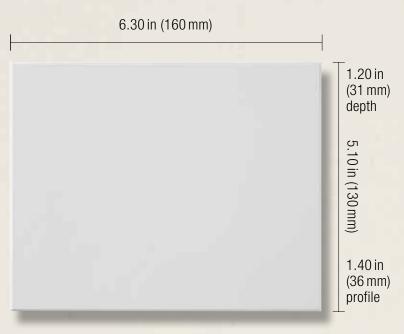
Dual voltage 3-wire fluorescent PHPM-3F-DV-WH 120-277 V

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



¹Load feed: 120 V for PHPM-3F-120-WH; 120 V-277 V 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

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 4in (102 mm) x 4in (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)

* Visit **www.lutron.com/LEDtool** for a complete list of LEDs compatible with this module.

Phase-adaptive power module with 3-wire Power interfaces | fluorescent input

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

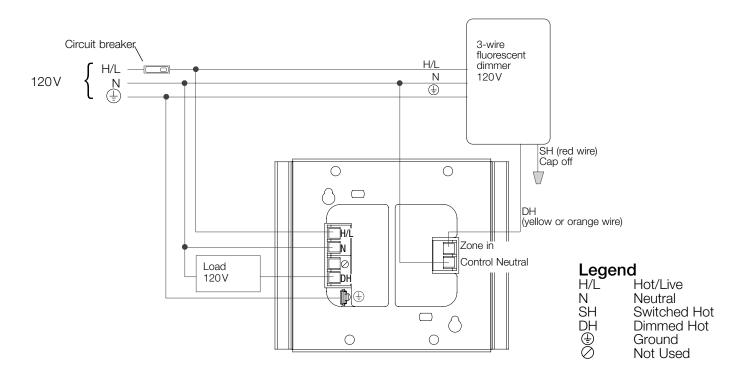
PHPM-WBX-120-WH Phase-adaptive with 3-wire fluorescent input 120 V Dual voltage phase-adaptive PHPM-WBX-DV-WH

with 3-wire fluorescent input

120-277 V

Compatible with Maestro Wireless® dimmer, EcoSystem® dimming module and RadioRA® 2 dimmer.

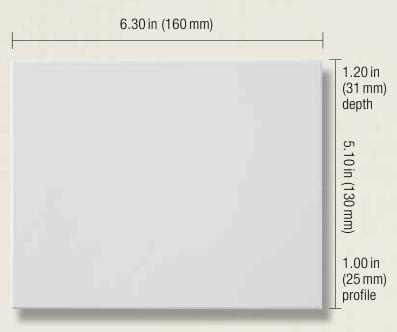
Typical single power feed wiring with a 3-wire fluorescent dimmer



For additional wiring diagrams, see the specification submittal on www.lutron.com

*Load feed: 120V for PHPM-WBX-120-WH; 120V-277V for PHPM-WBX-DV-WH

Power interfaces | Switching power module



Shown above: Switching power module (PHPM-SW-DV-WH)

Direct lighting loads for switching

- Non-dim lighting
- Motor loads: 1/2 HP at 120 V 1 HP at 277 V

Fan loads

Operating voltages

- Models available to accept 120V or 100V (Japan) control power
- Model available for 120–277 V or 100 V 200 V 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 4in (102 mm) x 4in (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)

Power interfaces | Switching power module

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

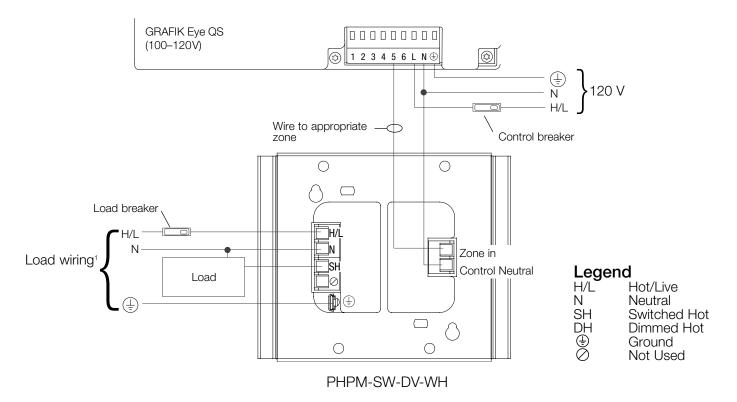
Modules

Dual voltage-switching 120-277V	PHPM-SW-DV-WH
Switching 100V-200V for Japan	PHPM-SW-JA-WH

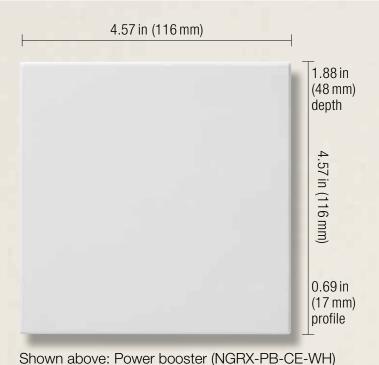
Compatible with Maestro Wireless® switch, GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem® and RadioRA® 2 switch/hybrid keypad and EcoSystem switching power module.

Volume 2 P/N 367-2066 301

Typical multiple power feed wiring with GRAFIK Eye QS system



For additional wiring diagrams, see the specification submittal on **www.lutron.com**¹Load feed: 120–277 V for PHPM-SW-DV-WH; 100 V or 100–200 V for PHPM-SW-JA-WH



Direct lighting loads

Incandescent/halogen

Magnetic low-voltage

Neon/cold cathode

🦫 GFL/LED (screw-base)*

Operating voltages

 Models available for 220–240 V, 230 V (CE) or 100 V @ 50/60 Hz 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** for a complete list of LEDs compatible with this booster.

Power interfaces | Power booster

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 NGRX-PB-AU-WH

220-240 V 2400 W/VA

Power Booster NGRX-PB-CE-WH

230 V (CE) 1200 W/VA flush mount with faceplate

Power Booster NGRX-PB-CE-WH

230 V (CE) 1840 W/VA

surface mount without faceplate

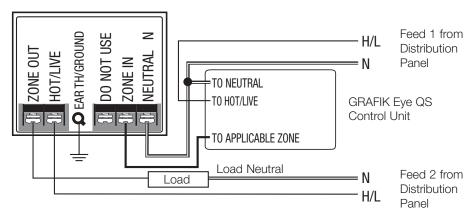
Power Booster NGRX-PB-JA-WH

100 V 1600 W/VA for Japan

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 230 V wiring and single-feed wiring, see the specification submittal on **www.lutron.com**

Power interfaces | Electronic low-voltage interface

4.57 in (116 mm) 1.88 in (48 mm) depth .57 in (116 mm) $0.69 \, \text{in}$ $(17 \, \text{mm})$ profile

Direct lighting loads

Electronic low-voltage

🦫 GFL/LED (screw-base)*

Operating voltages

Models available for 220–240 V, or 230 (CE)

Shown above: Electronic low-voltage

interface (NGRX-ELVI-CE-WH)

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 m) 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** for a complete list of LEDs compatible with this interface.

Power interfaces | Electronic low-voltage interface

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

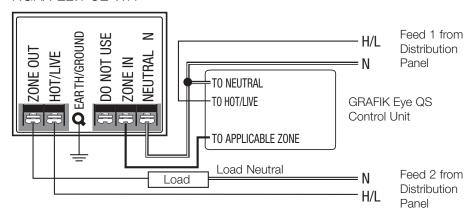
Electronic low-voltage interface NGRX-ELVI-AU-WH 220-240V 1200W/VA

Electronic low-voltage interface NGRX-ELVI-CE-WH 230 V (CE) 1200 W/VA

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem and Energi Savr Node phase adaptive (DIN-rail) module.

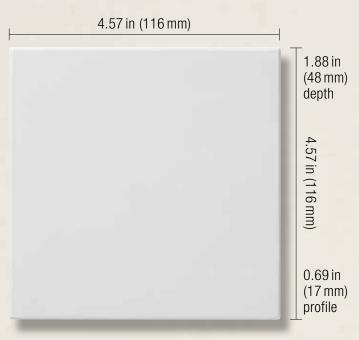
Dual-feed wiring diagram for 230 V (CE)

NGRX-ELVI-CE-WH



For 230V wiring and single-feed wiring, see the specification submittal on www.lutron.com

Power interfaces | Fluorescent dimming ballast interface



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 m) 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)

Power interfaces | Fluorescent dimming ballast interface

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

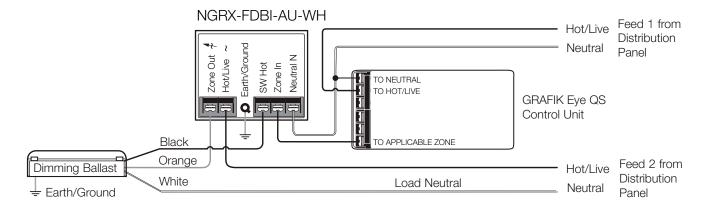
Interfaces

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

6.10 in (155 mm)



3.30 in $(84 \, \text{mm})$ depth

12.50 in (318 mm)

Shown above: 0–10V interface (GRX-TVI)

Direct lighting loads

∠ Fluorescent/LED¹ (0–10 V)

Non-dim lighting

Motor loads

Fan loads

- ¹ Visit www.lutron.com/LEDtool for compatibility information.
- ² Contact Lutron for model availability for 277 V load power

Download specification submittal

Operating voltages²

- Provides 100–127 V, or 200–240 V (CE) power to loads
- Requires 100–127 V or 200–240 V 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 0-10 V source)
- Switches up to 16A of electronic capacitive fluorescent ballasts/other loads
- Switches motors up to 1/4HP @ 100-127V, 1/2 HP @ 200-277 V
- 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: 6.10in (155mm) 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)

Power interfaces | 0-10V interface

Communication and wiring

- Separate neutrals are required for load circuit—no common neutrals
- Each terminal can accept up to two 12 AWG (2.5 mm²) conductors

Model numbers

Interfaces

0-10V interface

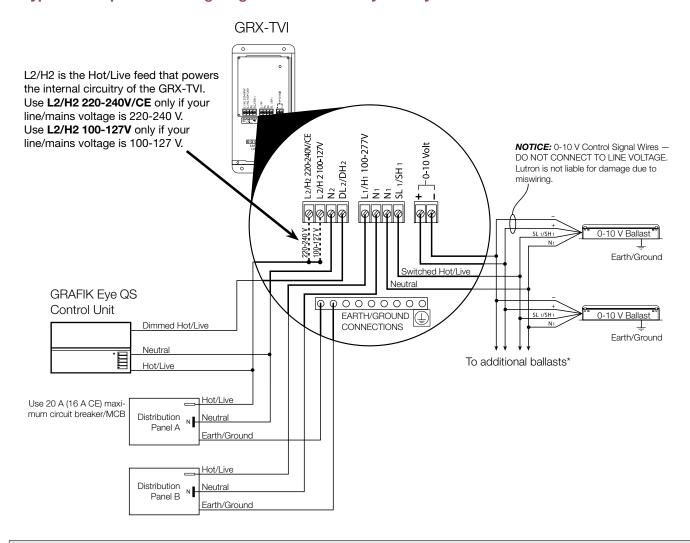
GRX-TVI

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, EocSystem 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

*Ballast must provide 0-10V source only.

Power interfaces | Pulse width modulation interface

12.50 in (318 mm)

3.30 in

 $(84 \, \text{mm})$

depth

6.10 in (155 mm)



Shown above: Pulse width modulation interface (GRX-PWM)

Direct lighting loads

∠ Fluorescent/LED* (PWM)

Non-dim lighting

Motor loads

* Fan loads **Operating voltages**

- Provides 100–277 V @ 50/60 Hz power to loads
- Requires 100–127 V @ 50/60 Hz power for internal operations

Feature and capacities

- Switches and dims any pulse width modulation fluorescent dimming ballast or LED driver powered by 100-277 V that conforms to JISC 8120-2
- Switches up to 16A of electronic capacitive fluorescent ballasts/other loads
- Switches motors up to 1/4HP @ 100–127 V, 1/2 HP @ 200-277 V
- · 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: 6.10in (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)

* Visit www.lutron.com/LEDtool for compatibility information.

Power interfaces | Pulse width modulation interface

Communication and wiring

- Separate neutrals are required for load circuit—no common neutrals
- Each terminal can accept up to two 12 AWG (2.5mm²) conductors

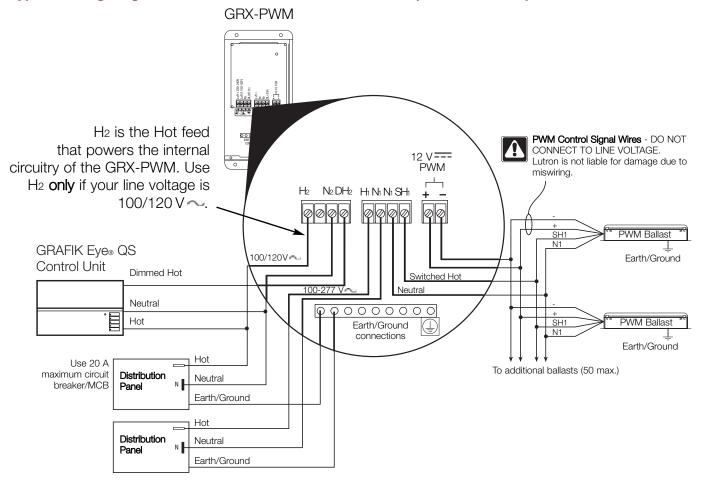
Model numbers

Interfaces

GRX-PWM PWM interface 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, EocSystem dimming power module, EcoSystem fixture module and EcoSystem switching power module.

Typical wiring diagram for 100/120 V GRX-PWM with multuple distribution panels



For additional wiring diagrams, see the specification submittal on www.lutron.com

Power interfaces | EcoSystem_® dimming power module

7.80 in (200 mm)

2.50 in $(64 \, \text{mm})$

depth

5.00 in (130 mm)



Shown above: EcoSystem dimming module (BMJ) (C5-BMJ-16A)

Direct lighting loads

Fluorescent/LED (3-wire)

Operating voltages

- Universal voltage input: 100–277 V @ 50/60 Hz
- Ouput rating: 16 A 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 (120 V 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)

Power interfaces | EcoSystem_® dimming power module

Communication and wiring

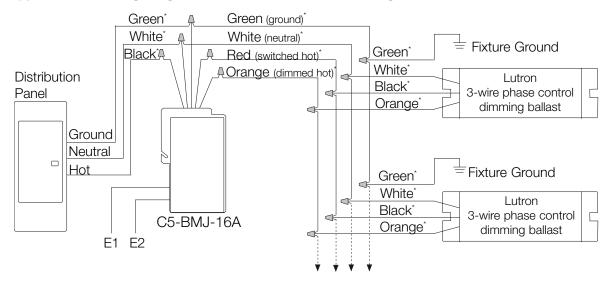
- · Wiring between module and ballast shall not exceed 500ft (150m)
- · Maximum distance from module to sensor/keypad is 100ft (30 m)
- · Communicates status and sensor levels over the EcoSystem digital link
- · E1 and E2 wires are not polarity sensitive
- Digital link length is limited by the wire gauge used for E1 and E2

Model numbers

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

*Colors indicate the module and ballast wire colors and/or ballast terminal colors.

Power interfaces | EcoSystem_® switching power module

5.00 in (130 mm) EcoSystem. C5-XPJ-16A .80 in (200 mm M 2.50 in (64 mm) depth

Shown above: EcoSystem switching module (XPJ) (C5-XPJ-16A)

Direct lighting loads for switching

- Non-dim lighting
- Motor loads: 1/4 HP at 100-120 V 1/2 HP at 200-277 V

Fan loads

Operating voltages

- Universal voltage input: 100-277V @ 50/60Hz
- Output Rating: 16A Softswitch® relay maximum non-dimmable load

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)

Power interfaces | EcoSystem_® switching power module

Communication and wiring

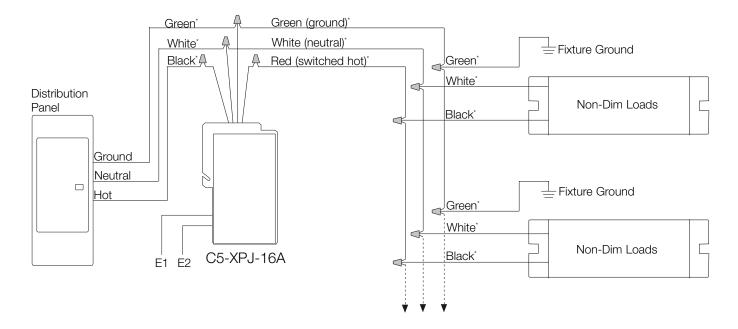
- · Wiring between module and ballast shall not exceed 500ft (150m)
- · Maximum distance from module to sensor/keypad is 100ft (30 m)
- E1 and E2 wires are not polarity sensitive
- · Digital link length is limited by the wire gauge used for E1 and E2
- · Communicates status and sensor levels over the 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

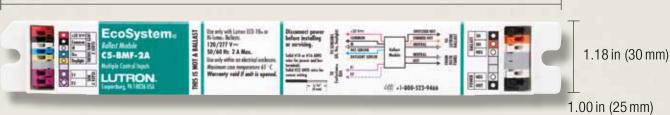


For additional wiring diagrams, see the specification submittal on www.lutron.com

*Colors indicate the module and ballast wire colors and/or ballast terminal colors.

Power interfaces | EcoSystem_® fixture module

9.30 in (236 mm)



Shown above: EcoSystem fixture module (BMF)—fixture mounted (C5-BMF-2A)

1.00 in (25 mm) depth

Direct lighting loads

Fluorescent (3-wire)

Operating voltages

• Universal voltage input: 120/240/277 V @ 50/60 Hz

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 3D) relative light output

Dimensions and mounting

- · Width: 9.30 in (236 mm) Height: 1.18 in (30 mm) Depth: 1.00 in (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

Power interfaces | EcoSystem_® fixture module

Communication and wiring

- Wiring between module to ballast shall not exceed 50ft (15 m)
- Maximum distance from module to sensor/keypad is 100ft (30 m)
- · Do not exceed 2A 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

Model numbers

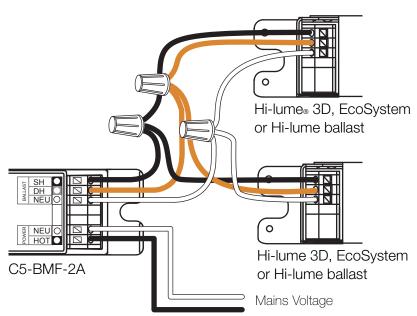
Modules

EcoSystem fixture module

C5-BMF-2A

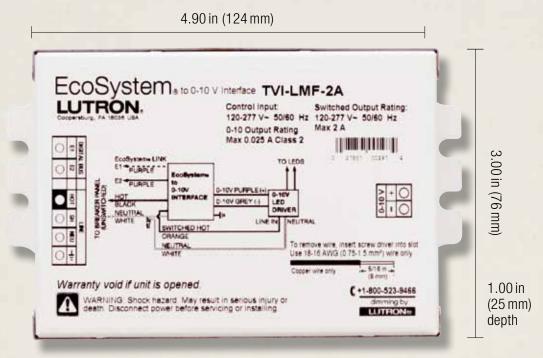
Compatible with PowPak® dimming module with EcoSystem, GRAFIK Eye® QS with EcoSystem and Energi Savr Node™ with EcoSystem.

Typical wiring diagram to multiple ballasts



For additional wiring diagrams, see the specification submittal on www.lutron.com

Power interfaces | EcoSystem_® to 0-10V interface



Shown actual size: EcoSystem to 0-10V interface (TVI-LMF-2A)

Direct lighting loads

∠⇒/[©] Fluorescent/LED (0–10 V)

Operating voltages

- Operating voltage: 120V~, 220/240V~, or 277 V ~ @ 50/60 Hz input
- Provides one 120V~, 220/240V~, or 277 V~ @ 50/60 Hz 2 A 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 0–10 V 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)

Power interfaces | EcoSystem_® to 0-10V interface

Dimensions and mounting

• Width: 3.00 in (76 mm) Height: 4.90 in (124 mm) Depth: 1.00 in (25 mm)

- · 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
- EcoSytem digital link can be wired Class 1 or IEC PELV/NEC Class 2
- Sensors cannot directly conect to the EcoSystem to 0-10V interface

Model numbers

Interfaces

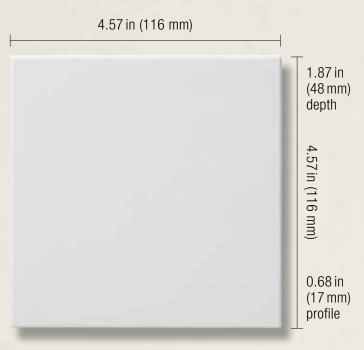
EcoSystem to 0-10V interface

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.

Power interfaces | Synthetic minimum load interface



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 120 V 100 mA and 220-240 V 65 mA (CE), and 100 V 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 4in (102 mm) x 4in (102 mm) junction box, 2.10 in (53 mm) deep

Power interfaces | Synthetic minimum load interface

Communication and wiring

- Accepts up to two #12 AWG (2.5 mm²) wires
- Single and dual-zone wiring

Model numbers

Interfaces

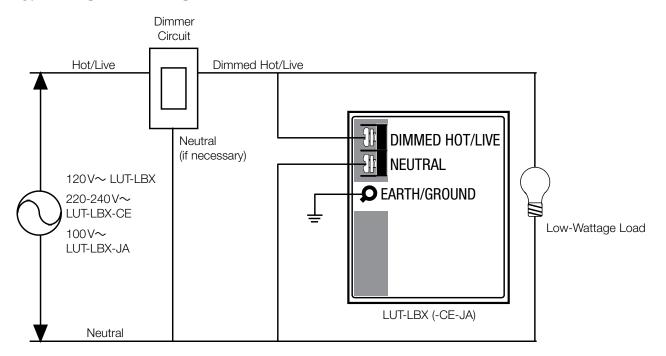
LUT-LBX-WH Synthetic minimum load interface 120V

Synthetic minimum load interface LUT-LBX-CE-WH 220-240V (CE)

Synthetic minimum load interface LUT-LBX-JA-WH 100V for Japan

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

For additional information on LEDs, please visit www.lutron.com/LED

EcoSystem_® compatible ballasts and drivers

Family	Compatible Lamp Types and Wattages	Input Voltage
Fluorescent ballasts		
EcoSystem H-Series ballasts pg. 332	T8 linear and U-bent: 17W, 25W, 32WT5 HO linear: 24W, 39W, 54WT5 linear: 14W, 21W, 28W	• UNV: 120V, 220/240V, 277V @ 50/60Hz
EcoSystem H-Series ballasts pg. 332 Global models	 T8 linear: 32W T5 HO linear: 24W, 39W, 54W T5 linear: 14W, 21W, 28W NOTE: For model availability, please refer to page 316. 	 127–220 V INMETRO © 50/60 Hz 220–240 V CE @ 50/60 Hz 220–240 V CCC @ 50/60 Hz 347 V CSA @ 60 Hz
Hi-lume _® 3D ballasts pg. 334	 T8 linear and U-bent: 17W, 25W, 32W, 40W T5 HO linear: 24W, 39W, 54W, 80W T5 linear: 14W, 21W, 28W T5 twin-tube: 36W, 40W, 50W 	• UNV: 120 V, 220/240 V, 277 V @ 50/60 Hz
EcoSystem ballasts pg. 336	 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 	• UNV: 120V, 220/240V, 277V @ 50/60Hz
EcoSystem compact ballasts pg. 338	 T4 4-pin quad-tube CFL: 18W, 26W T4 4-pin triple-tube CFL: 26W, 32W, 42W 	• UNV: 120 V, 220/240 V, 277 V @ 50/60 Hz
LED drivers		
Hi-lume® A-Series LED drivers pg. 340	LED light engines, up to 40W	 UNV: 120 V, 220/240 V, 277 V @ 50/60 Hz 120 V only for forward phase control models
EcoSystem LED drivers pg. 346 CE model	LED light engines, up to 25 W	• 220–240V CE @ 50/60Hz

Control Options	Available Case Types	(pgs. 328-331)	Low-end dimming level	Integral Sensor Connections
EcoSystem digital link	M-case	G-case	0.7% for T8 1% for T% and T5HO	No
EcoSystem digital link	M-case	C-case (for 347 V only)	1%	No
 EcoSystem digital link 3-wire	C-case	G-case	0.7% for T8 1% for T5 and T5 HO 5% for T5 twin-tube and T5 HO 80 W	No
 EcoSystem digital link 3-wire control Low-voltage wallbox controls, occupancy and daylight sensors 	J-case	G-case	10%	Yes
 EcoSystem digital link 3-wire	K-case		5%	No
EcoSystem digital link3-wire2-wire forward phase control (neutral required)	K-case	M-case	1%	No
EcoSystem digital link	P-case		1%	No

3-Wire and Tu-Wire compatible ballasts

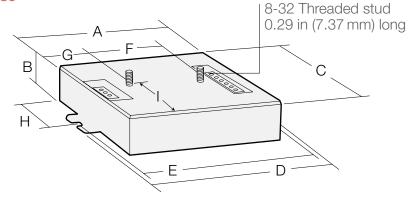
(For other 3-wire compatible ballasts, see pgs. 334, 336)

Family	Compatible Lamp Types and Wattages	Input Voltage
Fluorescent ballasts		
Hi-lume® ballasts pg.340	T5 HO linear: 24W, 39W, 54WT4 4-pin triple-tube CFL: 26W, 32W	• 120V, 277V @ 60Hz
Tu-Wire ballasts pg.342	 T8 linear and U-bent: 25W, 32W T4 4-pin quad-tube CFL: 18W, 26W T4 4-pin triple-tube CFL: 18W, 26W, 32W 	• 120V @ 60Hz

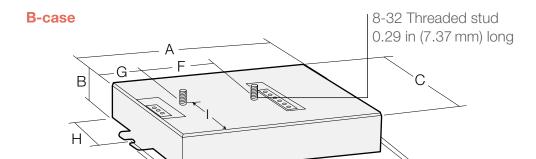
Control Options	Available Case Types	(pgs. 328-331)	Low-end dimming level	Integral Sensor Connections
• 3-wire	A-case	C-case	1%	No
Tu-Wire (fluorescent)	A-case B-case	C-case	5%	No

Case dimensions

A-case



- A 4.20 in (107 mm)
- 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)
- 1.39 in (35 mm)

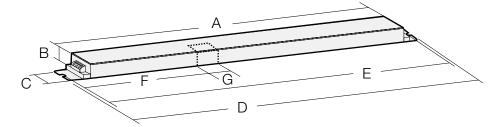


- A 6.00 in (152 mm)
- 1.00 in (25 mm) В
- C 3.00 in (76 mm)
- D 6.75 in (171 mm)
- E 6.50 in (165 mm) (mounting centers)
- F 2.00 in (51 mm)
- 1.16 in (29 mm)
- 1.60 in (41 mm)
- 1.39 in (35 mm)

D

Case dimensions

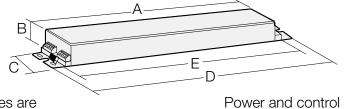
C- or J-case



Note: Dotted area for sensor attachment applies to EcoSystem® J-case only.

- 16.12 in (409 mm)
- 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

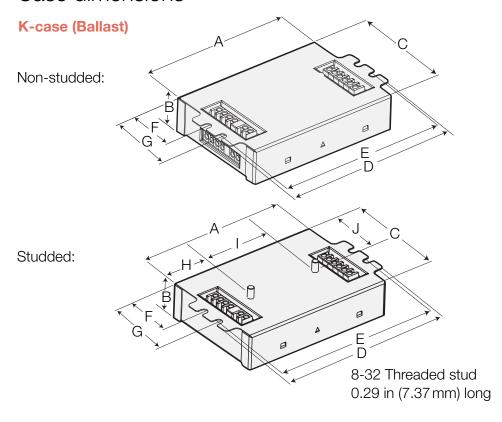


Lamp wires are 36 in (0.90 m) for leaded models wires are 18 in (457 mm) for leaded models

- 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).

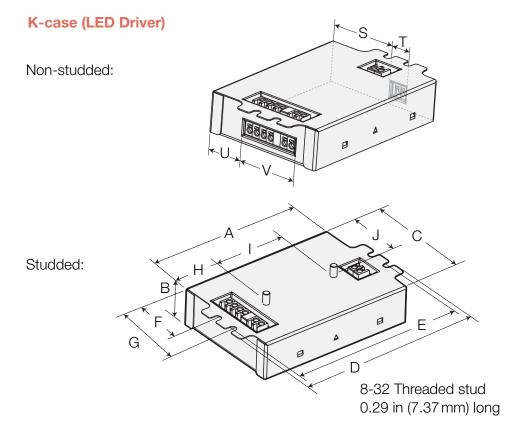
Case dimensions



- A 4.20 in (107 mm)
- 1.00 in (25 mm)
- C 3.00 in (76mm)
- 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)

For studded models only:

- H 1.09 in (28 mm)
- 2.00 in (51 mm)
- 1.60 in (41 mm)



- 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)
- 1.42 in (36 mm)
- G 1.99 in (51 mm)

For studded models only:

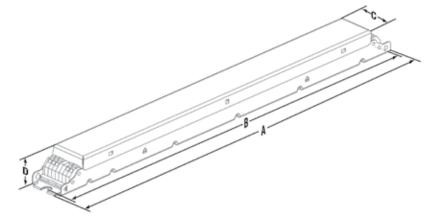
- H 1.09 in (28 mm)
- 2.00 in (51 mm)
- 1.60 in (41 mm)

For non-studded models only:

- 1.38 in (35 mm)
- 0.64 in (16 mm)
- 0.88 in (22 mm)
- V 1.53 in (39 mm)

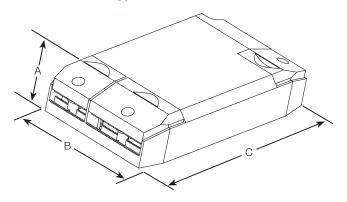
Case dimensions

M-case



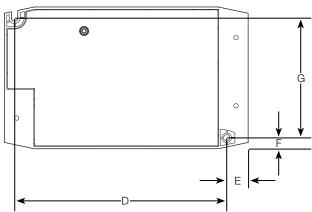
- A 14.13 in (359 mm)
- B 13.78 in (350 mm) (mounting centers)
- C 1.18in (30mm)
- D 0.98 in (25 mm)

P-case (International models only)



- A 31.8mm
- B 90 mm
- C 154.7 mm
- D 134.6mm
- E 13.6 mm
- F 6.95 mm
- G 76.05 mm

Mounting centers



Ballasts and drivers | EcoSystem_® H-Series ballast

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 (120 V, 220/240 V and 277 V @ 50/60 Hz) and 347 V @ 60 Hz

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 (347 V 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 countryspecific 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

Ballasts and drivers | EcoSystem_® H-Series ballast

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 16-18 AWG (0.75 to 1.5 mm²) 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)

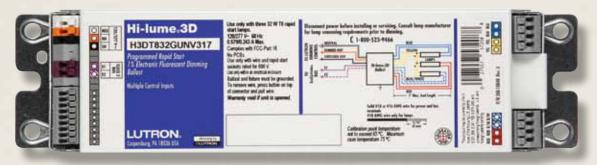
Environment

- · Sound rating: Class A
- Minimum lamp starting temperature 10°C (50°F)
- Maximum ballast case temperature 75°C (167°F)

- EcoSystem H-Series 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
- The 16 AWG control wire must not exceed 900 ft, and the 18 AWG must not exceed 550 ft; maximum ballast-to-lamp-socket lead length is 7 ft (2 m) 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 (120 V, 220/240 V, 277 V @ 50/60 Hz)

Lamp types and wattages

T8 linear and U-bent: 17 W, 25 W, 32 W, 40 W

T5 HO linear: 24W, 39W, 54W, 80W¹

T5 linear: 14W, 21W, 28W

T5 twin tube¹: 36 W, 40 W, 50 W

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

¹80 W T5 HO model and T5 twin-tube models dim to 5%

Download specification submittal

Ballasts and drivers | Hi-lume_® 3D ballast

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)

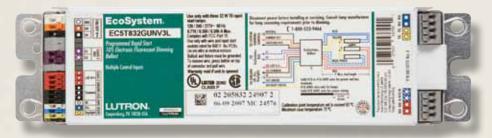
Mounting

- · 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 16-18 AWG (0.75 to 1.5 mm²) solid copper or tinned stranded wire

- EcoSystem digital link: Hi-lume 3D ballasts require 4 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: Hi-lume 3D ballasts require three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18 AWG solid copper Class 1 wire per terminal
- The 16 AWG control wire must not exceed 900 ft, and the 18 AWG must not exceed 550 ft; 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

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 (120 V, 220/240 V, 277 V @ 50/60 Hz)

Lamp types and wattages

T8 linear and U-bent: 17 W, 25 W, 32 W

T8 linear Reduced Wattage: 25 W, 28 W, 30 W

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

Ballasts and drivers | EcoSystem_® ballast

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 2perfect 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

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

- 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 16-18 AWG (0.75 to 1.5 mm²) solid copper or tinned stranded wire

- 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 16 AWG control wire must not exceed 900 ft, and the 18 AWG must not exceed 550 ft; 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

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 (120 V, 220/240 V, 277 V @ 50/60 Hz)

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 (1 m)	7 ft (2 m)

Ballasts and drivers | EcoSystem_® compact ballast

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 16-18 AWG (0.75 to 1.5 mm²) solid copper or tinned stranded wire

- EcoSystem digital link: EcoSystem compact 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 compact ballasts require three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18 AWG solid copper Class 1 wire per terminal
- The 16 AWG control wire must not exceed 900 ft. and the 18 AWG must not exceed 550 ft; maximum ballast-to-lamp-socket lead length is 3 ft (1 m) 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

Ballasts and drivers | Hi-lume_® ballast

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-tofixture 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 mm²) solid copper or tinned stranded wire

- · Hi-lume ballasts require three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18 AWG solid copper Class 1 wire per terminal
- Maximum ballast-to-lamp-socket lead length is 7ft (2m) 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: 25 W, 32 W

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

Ballasts and drivers | Tu-Wire ballast

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)

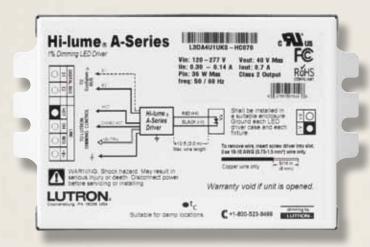
Mounting

- 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 16-18 AWG (0.75 to 1.5 mm²) solid copper or tinned stranded wire

- Tu-Wire ballasts require two wires plus Ground (Dimmed Hot and Neutral); one 16-18 AWG solid copper Class 1 wire per terminal
- · Maximum ballast-to-lamp-socket lead length is 7ft (2m) for T8 lamps and 3ft (1m) 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 (120 V, 220/240 V and 277 V @ 50/60 Hz)
- 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 40 W*

Available case types

- K-case
- M-case

LED operating specifications

Constant Current

- 200 mA-2.1 A (in 10 mA steps)
- 5W-40W
- · Pulse width modulation (PWM) or constant current reduction (CCR) dimming

Constant Voltage

- 10V–40V (in 0.5V 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

Ballasts and drivers | Hi-lume_® A-Series LED driver

Key standards

- UL 8750 Recognized
- FCC Part 15 compliant for commercial applications at 120V or 277V and for residential applications at 120 V
- 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

- EcoSystem digital link: Hi-lume A-Series LED drivers require 4 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: Requires three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18 AWG solid copper Class 1 wire per terminal
 - **2-Wire forward phase:** Requires two wires plus Ground (Dimmed Hot and Neutral); one 16-18 AWG solid copper Class 1 or Class 2 wire per terminal
- The 16 AWG control wire must not exceed 900 ft. and the 18 AWG must not exceed 550 ft; 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

220–240 V CE @ 50/60 Hz

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

- 0.20 A–1.05 A (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

Ballasts and drivers | EcoSystem_® LED driver

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 2 A

Environment

· Sound rating: inaudible in a 27 dB ambient environment

Mounting

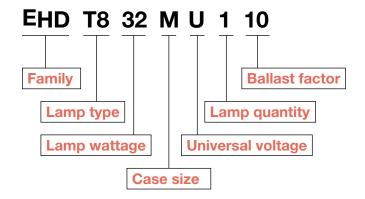
· Independent control gear, driver requires no particular mounting means

- EcoSystem LED drivers require four wires plus Ground (E1, E2, Live and Neutral); one 0.75 mm² to 1.5 mm² solid copper Class 1 or Class 2 wire per terminal
- The 1.5 mm² control wire must not exceed 310 m, and the 0.75 mm² must not exceed 50 m; maximum driver-to-LED light engine wire length is 3 m for any output type

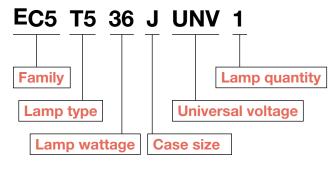
Understanding ballast model numbers

Lutron ballast model numbers are designed to illustrate basic information about the ballast. For example:

EcoSystem® H-Series ballasts

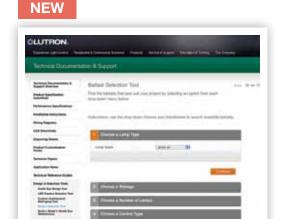


EcoSystem ballasts



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.



Updated Ballast Selection Tool with Custom Ballast Factor. Find and configure the ballast that best fits your project: www.lutron.com/BallastTool

T8 and U-bent 2=

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	Lamps			Input	Input	Input	Ballast	System	System	Ballast Efficacy	Relative System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
				277	0.08	22.2	1.00	1,300	90	4.51	0.77
	1	EHD T817 M U 1 10	М	240	0.09	21.6	1.00	1,300	93	4.63	0.79
17W				120	0.18	21.6	1.00	1,300	93	4.63	0.79
(24 in)				277	0.15	41.6	1.00	2,600	96	2.41	0.82
	2	EHD T817 M U 2 10	М	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
				277	0.11	30.5	1.00	1,900	62	3.28	0.82
	1	EHD T825 M U 1 10	М	240	0.11	26.4	1.00	1,900	72	3.79	0.95
25W				120	0.26	31.2	1.00	1,900	61	3.21	0.80
(36 in)				277	0.20	55.4	1.00	3,800	69	1.81	0.90
	2	EHD T825 M U 2 10	М	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
				277	0.12	33.2	1.00	3,000	90	3.01	0.96
		EHD T832 M U 1 10	M	240	0.14	33.6	1.00	3,000	89	2.98	0.95
	1 -			120	0.29	34.8	1.00	3,000	86	3.01	0.92
		EHD T832 M U 1 17	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
				277	0.24	66.5	1.00	6,000	90	1.50	0.96
		EHD T832 M U 2 10	М	240	0.28	67.2	1.00	6,000	89	1.49	0.95
32W	2			120	0.57	68.4	1.00	6,000	88	1.46	0.94
(48 in)		FUD T000 II U 0 4		277	0.28	77.6	1.17	7,020	91	1.51	0.97
		EHD T832 M U 2 17	М	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
		FUD T000 0 U 0 40	0	277	0.37	93.5	1.00	9,000	96	1.07	1.03
		EHD T832 G U 3 10	G	240	0.40	94.9	1.00	9,000	95	1.05	1.01
	3			120	0.83	95.4	1.00	9,000	94	1.05	1.01
		FUD T000 0 U 0 47	0	277	0.41	105.7	1.17	10,530	100	1.11	1.06
		EHD T832 G U 3 17	G	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

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit 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)



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	Lamps per		Case	Input Voltage	Input Current	Input Power	Ballast Factor	System Lumens	System Efficacy	Ballast Efficacy Factor	Relative System Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSÉ)
		H3D T817 C U 1 10	С	277	0.08	22.2	1.00	1,300	59	4.51	0.77
		H3D T817 G U 1 10	G	240	0.09	21.6	1.00	1,300	60	4.63	0.79
	1	1130 1017 0 0 1 10	u	120	0.18	21.6	1.00	1,300	60	4.63	0.79
	'	H3D T817 C U 1 17	С	277	0.08	22.2	1.17	1,521	69	5.28	0.90
		H3D T817 G U 1 17	G	240	0.10	24.0	1.17	1,521	63	4.88	0.83
		1100 1017 4 0 1 17	<u> </u>	120	0.19	22.8	1.17	1,521	67	5.13	0.87
		H3D T817 C U 2 10	С	277	0.15	41.6	1.00	2,600	63	2.41	0.82
		H3D T817 G U 2 10	G	240	0.18	43.2	1.00	2,600	60	2.31	0.79
17W	2	1105 1017 4 0 2 10	G	120	0.35	42.0	1.00	2,600	62	2.38	0.81
(24 in)	_	H3D T817 C U 2 17	С	277	0.15	41.6	1.17	3,042	73	2.82	0.96
		H3D T817 G U 2 17	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
			_	277	0.21	58.2	1.00	3,900	67	1.72	0.88
	3 -	H3D T817 G U 3 10	G	240	0.25	60.0	1.00	3,900	65	1.67	0.85
				120	0.48	57.6	1.00	3,900	68	1.74	0.89
			_	277	0.23	63.7	1.17	4,563	72	1.84	0.94
		H3D T817 G U 3 17	G	240	0.27	64.8	1.17	4,563	70	1.81	0.92
				120	0.55	66.0	1.17	4,563	69	1.77	0.90
				277	0.11	30.5	1.00	1,900	62	3.28	0.82
		H3D T825 C U 1 10	С	240	0.11	26.4	1.00	1,900	72	3.79	0.95
	1			120	0.26	31.2	1.00	1,900	61	3.21	0.80
				277	0.12	33.2	1.17	2,223	67	3.52	0.88
		H3D T825 C U 1 17	С	240	0.14	33.6	1.17	2,223	66	3.48	0.87
25W				120	0.28	33.6	1.17	2,223	66	3.48	0.87
(36 in)				277	0.20	55.4	1.00	3,800	69	1.81	0.90
		H3D T825 C U 2 10	С	240	0.23	55.2	1.00	3,800	69	1.81	0.91
	2			120	0.47	56.4	1.00	3,800	67	1.77	0.89
	_			277	0.22	60.9	1.17	4,446	73	1.92	0.96
		H3D T825 C U 2 17	С	240	0.25	60.0	1.17	4,446	74	1.95	0.98
				120	0.51	61.2	1.17	4,446	73	1.91	0.96

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit 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) / (>



Hi-lume 3D (1% or less dimming) universal voltage digital dimming ballasts

Ballast Relative Lamp Lamps Input Input Input Ballast System System Efficacy System Watts Case Voltage Efficacy per Current Power Factor Lumens Efficacy Factor (Length) Ballast Model Number Type* (VAC) (A) (W) (BF)** $(lm)^{\dagger}$ $(Im/W)^{\dagger}$ (BEF) (RSE) 277 0.12 33.2 1.00 3,000 90 3.01 0.96 H3D T832 C U 1 10 C 240 0.14 33.6 1.00 3,000 89 2.98 0.95 G H3D T832 G U 1 10 120 0.29 34.8 1.00 3,000 86 2.87 0.92 1 277 0.15 41.6 1.17 3,510 84 2.82 0.90 C H3D T832 C U 1 17 240 0.17 40.8 1.17 3,510 86 2.87 0.92 H3D T832 G U 1 17 G 120 0.34 40.8 1.17 3,510 86 2.87 0.92 277 0.24 66.5 1.00 6,000 90 1.50 0.96 C H3D T832 C U 2 10 240 67.2 89 0.28 1.00 6,000 1.49 0.95 H3D T832 G U 2 10 G 120 32W 0.57 68.4 1.00 6,000 88 1.46 0.94 2 (48 in)277 0.28 77.6 1.17 7,020 91 1.51 0.97 C H3D T832 C U 2 17 240 0.32 76.8 1.17 7,020 91 1.52 0.98 G H3D T832 G U 2 17 120 0.65 78.0 1.17 7,020 90 1.50 0.96 277 0.37 102.5 1.00 9,000 88 0.98 0.94 240 9,000 1.04 H3D T832 G U 3 10 G 0.40 96.0 1.00 94 1.00 120 0.83 99.6 1.00 9,000 90 1.00 0.96 3 277 0.41 113.6 1.17 10,530 93 1.03 0.99 H3D T832 G U 3 17 G 240 0.47 112.8 1.17 10,530 93 1.04 1.00 120 0.95 114.0 10,530 92 1.03 1.17 0.99 277 0.16 42.8 3,800 89 2.34 1.00 0.94

240

120

277

240

120

277

240

120

277

240

120

0.18

0.37

0.18

0.21

0.43

0.32

0.37

0.77

0.36

0.41

0.84

43.0

43.8

49.6

49.4

50.6

88.9

88.4

90.9

98.2

97.2

100.3

1.00

1.00

1.17

1.17

1.17

1.00

1.00

1.00

1.17

1.17

1.17

3,800

3,800

4,446

4,446

4,446

7,600

7,600

7,600

8,892

8,892

8,892

C

C

C

C

Refer to the online ballast selection tool for additional information, www.lutron.com/BallastTool

H3D T840 C U 1 10

H3D T840 C U 1 17

H3D T840 C U 2 10

H3D T840 C U 2 17

40W

(60 in)

2

2.33

2.28

2.36

2.37

2.31

1.13

1.13

1.10

1.19

1.20

1.17

0.93

0.91

0.94

0.95

0.92

0.90

0.91

0.88

0.95

0.96

0.93

88

87

90

90

88

86

86

84

91

92

89

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit 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) 120 V dimming ballasts

- Dimming to 5%
- Compatible with Lutron Tu-Wire fluorescent controls
- Energy saving

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
25W	1	2W-T825-120-1	С	120	0.30	36.0	0.85	1,828	51	2.36	0.76
(36 in)	2	2W-T825-120-2	С	120	0.50	60.0	0.85	3,655	61	1.42	0.91
32W	1	2W-T832-120-1	С	120	0.37	44.4	0.85	2,550	57	1.91	0.61
(48 in)	2	2W-T832-120-2	С	120	0.70	84.0	0.85	5,100	61	1.01	0.65

^{*}For case type information see pgs. 328-331.

[†]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

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSÉ)
				277	0.08	20.6	0.85	1,190	58	4.13	0.70
	1	EC5 T817 J UNV 1	J	240	0.08	20.0	0.85	1,190	60	4.25	0.72
17W				120	0.17	20.1	0.85	1,190	59	4.23	0.72
(24 in)				277	0.13	36.2	0.85	2,380	66	2.35	0.80
	2	EC5 T817 J UNV 2	J	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
				277	0.10	27.6	0.85	1,828	66	3.08	0.77
	1	EC5 T825 J UNV 1	J	240	0.11	27.0	0.85	1,828	68	3.15	0.79
25W				120	0.23	26.9	0.85	1,828	68	3.16	0.79
(36 in)				277	0.18	48.9	0.85	3,665	75	1.74	0.87
	2	EC5 T825 J UNV 2	J	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
		EC5 T832 J UNV 1		277	0.11	31.6	0.85	2,550	81	2.69	0.86
	1		J	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
				277	0.21	57.4	0.85	5,100	89	1.48	0.95
		EC5 T832 J UNV 2	J	240	0.25	59.0	0.85	5,100	86	1.44	0.92
	2			120	0.49	59.1	0.85	5,100	86	1.44	0.92
32W				277	0.22	59.6	0.85	5,100	86	1.43	0.91
(48 in)		EC5 T832 G UNV 2L ^{††}	G	240	0.25	57.6	0.85	5,100	89	1.48	0.94
(40111)				120	0.49	58.8	0.85	5,100	87	1.45	0.93
				277	0.31	86.5	0.85	7,650	88	0.98	0.94
		EC5 T832 G UNV 3L ^{††}	G	240	0.36	84.0	0.85	7,650	89	1.01	0.97
	3			120	0.72	85.9	0.85	7,650	89	0.99	0.95
	ا			277	0.41	105.7	1.17	10,530	100	1.11	1.06
		EC5 T832 G UNV 317L**	G	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

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit 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 2 3



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

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
				277	0.09	24.8	0.85	2,061	83	3.43	0.86
	1	EC5 T8RW J UNV 1	J	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
25W				277	0.17	46.6	0.85	4,123	88	1.82	0.91
(48 in)	2	EC5 T8RW J UNV 2	J	240	0.19	45.9	0.85	4,123	90	1.85	0.93
(1011)				120	0.38	46.5	0.85	4,123	89	1.83	0.91
				277	0.25	67.9	0.85	6,184	91	1.25	0.94
	3	EC5 T8RW G UNV 3L ⁺⁺	G	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
				277	0.10	26.3	0.85	2,202	84	3.23	0.90
	1	EC5 T8RW J UNV 1	J	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
28W				277	0.18	48.9	0.85	4,403	90	1.74	0.97
(48 in)	2	EC5 T8RW J UNV 2	J	240	0.20	48.6	0.85	4,403	91	1.75	0.98
(40111)				120	0.42	50.0	0.85	4,403	88	1.70	0.95
				277	0.26	71.1	0.85	6,605	93	1.20	1.00
	3	EC5 T8RW G UNV 3L ⁺⁺	G	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
				277	0.11	28.9	0.85	2,350	81	2.94	0.88
	1	EC5 T8RW J UNV 1	J	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
0014				277	0.19	52.5	0.85	4,701	90	1.62	0.97
30W	2	EC5 T8RW J UNV 2	J	240	0.22	52.5	0.85	4,701	90	1.62	0.97
(48 in)				120	0.44	53.4	0.85	4,701	88	1.59	0.96
				277	0.28	76.3	0.85	7,051	92	1.11	1.00
	3	3 EC5 T8RW G UNV 3L	G	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.

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit www.lutron.com/BallastTool

[†]Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T5 Linear ZC

EcoSystem H-Series (1% dimming) universal voltage digital dimming ballasts

- Dimming to 1%
- · Compatible with Lutron EcoSystem digital controls
- Energy saving and cost effective

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
, ,				277	0.07	19.4	1.00	1,350	70	5.16	0.72
	1	EHD T514 M U 1 10	M	240	0.08	19.2	1.00	1,350	70	5.21	0.73
4 414				120	0.16	19.2	1.00	1,350	70	5.21	0.73
14W				277	0.13	36.0	1.00	2,700	75	2.78	0.78
(21.6 in)	2	EHD T514 M U 2 10	M	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
	4	FUD TEAA IA E 4 40	N 4	240	0,08	19,2	1,00	1 350	70	5,21	0,73
14W	1	EHD T514 M E 1 10	М	220	0,09	19,8	1,00	1 350	68	5,05	0,71
(549 mm)	0	FUD TE44 M F 0 40	N 4	240	0,15	36,0	1,00	2 700	75	2,78	0,78
	2	EHD T514 M E 2 10	M	220	0,16	35,2	1,00	2 700	77	2,84	0,80
				277	0.10	26.6	1.00	2,100	79	3.76	0.79
	1	EHD T521 M U 1 10	M	240	0.11	26.3	1.00	2,100	80	3.81	0.80
21 W				120	0.22	26.3	1.00	2,100	80	3.81	0.80
(33.4 in)				277	0.18	48.5	1.00	4,200	87	2.06	0.87
	2	EHD T521 M U 2 10	M	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
	1	EHD T521 M E 1 10	М	240	0,11	26,4	1,00	2 100	80	3,79	0,80
21 W	I	EUD 1951 MIE I 10	IVI	220	0,12	26,4	1,00	2 100	80	3,79	0,80
(848 mm)	2	EHD T521 M E 2 10	М	240	0,20	48,0	1,00	4 200	88	2,08	0,88
		LIID IJZI WILZIO	IVI	220	0,21	46,2	1,00	4 200	91	2,16	0,91
				277	0.12	33.0	1.00	2,900	88	3.03	0.85
	1	EHD T528 M U 1 10	M	240	0.13	31.2	1.00	2,900	93	3.21	0.90
28W				120	0.28	33.6	1.00	2,900	86	2.98	0.83
(45.2 in)				277	0.22	59.8	1.00	5,800	97	1.67	0.94
	2	EHD T528 M U 2 10	M	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	EHD T528 M E1 10	М	240	0,13	31,2	1,00	2 900	93	3,21	0,90
(1 148	I	LIID 1020 WILI 10	171	220	0,15	33,0	1,00	2 900	88	3,03	0,85
mm)	2	EHD T528 M E 2 10	М	240	0,26	62,4	1,00	5 800	93	1,60	0,90
111111)		LIID 1020 III L Z 10	171	220	0,29	63,8	1,00	5 800	91	1,57	0,88

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit www.lutron.com/BallastTool

[†]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

J										D-II- '	Dalati
Lamon				السيمينا	المسال	السمما	Dallast	Cuatana	Cuatana	Ballast	Relative
Lamp	Lamps		0	Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per	NA	Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
				277	0.07	19.4	1.00	1,350	70	5.16	0.72
	1	H3D T514 C U 1 10	C	240	0.08	19.2	1.00	1,350	70	5.21	0.73
14W				120	0.16	19.2	1.00	1,350	70	5.21	0.73
(21.6 in)				277	0.13	36.0	1.00	2,700	75	2.78	0.78
	2	H3D T514 C U 2 10	С	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
				277	0.10	26.6	1.00	2,100	79	3.76	0.79
	1	H3D T521 C U 1 10	С	240	0.11	26.3	1.00	2,100	80	3.81	0.80
21 W				120	0.22	26.3	1.00	2,100	80	3.81	0.80
(33.4 in)				277	0.18	48.5	1.00	4,200	87	2.06	0.87
	2	H3D T521 C U 2 10	С	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
				277	0.12	33.0	1.00	2,900	88	3.63	0.85
	1	H3D T528 C U 1 10	С	240	0.13	31.2	1.00	2,900	93	3.21	0.90
28W				120	0.28	33.6	1.00	2,900	86	2.98	0.83
(45.2 in)				277	0.22	59.8	1.00	5,800	97	1.67	0.94
(10.2111)	2	2 H3D T528 C U 2 10	C	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

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit www.lutron.com/BallastTool

[†]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

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
				277	0.07	19.0	1.00	1,350	71	5.26	0.74
	1	EC5 T514 J UNV 1	J	240	0.08	19.2	1.00	1,350	70	5.21	0.74
14W				120	0.16	19.2	1.00	1,350	70	5.21	0.74
(21.6 in)				277	0.12	32.8	1.00	2,700	82	3.05	0.85
	2	EC5 T514 J UNV 2	J	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
				277	0.09	24.9	1.00	2,100	84	4.01	0.84
	1	EC5 T521 J UNV 1	J	240	0.12	28.8	1.00	2,100	73	3.47	0.73
21 W				120	0.22	26.4	1.00	2,100	80	3.79	0.80
(33.4 in)				277	0.17	46.0	1.00	4,200	91	2.17	0.91
	2	EC5 T521 J UNV 2	J	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
				277	0.12	32.6	1.00	2,900	89	3.07	0.86
	1	EC5 T528 J UNV 1	J	240	0.14	32.9	1.00	2,900	88	3.04	0.85
28W				120	0.27	32.9	1.00	2,900	88	3.04	0.85
(45.2 in)				277	0.23	64.5	1.00	5,800	90	1.55	0.87
	2	EC5 T528 J UNV 2	J	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				277	0.15	42.0	1.00	3,650	87	2.38	0.83
(57.1 in)	1	EC5 T535 J UNV 1	J	240	0.18	42.3	1.00	3,650	87	2.38	0.83
(37.1111)				120	0.35	42.2	1.00	3,650	87	2.38	0.83

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit www.lutron.com/BallastTool

[†]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 Lamps Watts per (Length) Ballast Model Number Type* Voltage Current Power Factor Lumens Efficacy Factor Efficacy Efficacy
Watts per (Length) Case (Length) Voltage (VAC) Current (A) Power (W) Factor (BF)** Lumens (Im)* Efficacy (Im)* Factor (Im)* Efficacy (BEF) Factor (R) 1 EHD T524 M U 1 10 M 240 0.12 28.8 1.00 2,000 69 3.47 0 24W 1 EHD T524 M U 2 10 M 240 0.25 30.0 1.00 2,000 67 3.33 0 (21.6 in) 2 EHD T524 M U 2 10 M 240 0.23 55.2 1.00 4,000 72 1.81 0 24W 1 EHD T524 M E 1 10 M 240 0.12 28,8 1,00 4,000 72 1.81 0 24W 1 EHD T524 M E 1 10 M 240 0,12 28,8 1,00 2,000 69 3,47 0 24W 1 EHD T524 M E 1 10 M 240 0,12 28,8 1,00 2,000 70 3,50 <td< td=""></td<>
Clength Ballast Model Number Type* (VAC) (A) (W) (BF)** (Im)† (Im/W)† (BEF) (Fig. 1277 0.10 27.7 1.00 2,000 72 3.61 0.00 0.12 28.8 1.00 2,000 69 3.47 0.00 0.25 30.0 1.00 2,000 67 3.33 0.00 0.25 30.0 1.00 2,000 67 3.33 0.00 0.25 0.25 30.0 1.00 2,000 67 3.33 0.00 0.25 0.25 0.25 30.0 1.00 4,000 72 1.81 0.00 0.25
24W (21.6 in) 2 EHD T524 M U 1 10 M 240 0.12 28.8 1.00 2,000 69 3.47 0 1 20 0.25 30.0 1.00 2,000 67 3.33 0 277 0.20 55.4 1.00 4,000 72 1.81 0 2 EHD T524 M U 2 10 M 240 0.23 55.2 1.00 4,000 72 1.81 0 1 20 0.46 54.6 1.00 4,000 73 1.83 0 24W 1 EHD T524 M E 1 10 M 240 0.12 28,8 1,00 2,000 69 3,47 0 24W 240 0.12 28,8 1,00 2,000 69 3,47 0 24W 0.12 28,8 1,00 2,000 70 3,50 0
1 EHD T524 M U 1 10 M 240 0.12 28.8 1.00 2,000 69 3.47 0 120 0.25 30.0 1.00 2,000 67 3.33 0 120 0.25 30.0 1.00 4,000 72 1.81 0 120 0.46 54.6 1.00 4,000 73 1.83 0 120 0.46 54.6 1.00 4,000 73 1.83 0 120 0.46 54.6 1.00 4,000 73 1.83 0 120 0.46 54.6 1.00 2,000 69 3,47 0 120 0.46 54.6 1.00 4,000 73 1.83 0 120 0.46 54.6 1.00 2,000 69 3,47 0 120 0.40 0.40 0.40 0.40 0.40 0.40 0.40 0.
24W (21.6 in) 2
(21.6 in) 2 EHD T524 M U 2 10 M
2 EHD T524 M U 2 10 M 240 0.23 55.2 1.00 4,000 72 1.81 0 120 0.46 54.6 1.00 4,000 73 1.83 0 24W 1 EHD T524 M E 1 10 M 240 0,12 28,8 1,00 2 000 69 3,47 0 220 0,13 28,6 1,00 2 000 70 3,50 0
1 20 0.46 54.6 1.00 4,000 73 1.83 0 24W 1 EHD T524 M E 1 10 M 240 0,12 28,8 1,00 2 000 69 3,47 0 220 0,13 28,6 1,00 2 000 70 3,50 0
24W 1 EHD T524 M E 1 10 M 240 0,12 28,8 1,00 2 000 69 3,47 0 200 0,13 28,6 1,00 2 000 70 3,50 0
24W 1 EHU 1524 M E 1 10 M 220 0,13 28,6 1,00 2,000 70 3,50 0 (549 mm) 240 0.22 52.8 1,00 4,000 76 1,89 0
24W 220 0,13 28,6 1,00 2 000 70 3,50 0 (549 mm) 240 0.22 52.8 1.00 4.000 76 1.89 0
2 EHD T524 M E 2 10 M 240 0,22 32,0 1,00 4 000 70 1,09 0
2 END 1924 WE 2 10 W 220 0,25 55,0 1,00 4 000 73 1,82 0
277 0.17 46.0 1.00 3,500 76 2.17 0
1 EHD T539 M U 1 10 M 240 0.19 44.9 1.00 3,500 78 2.23 0
39W 120 0.37 44.4 1.00 3,500 79 2.25 0
(33.4in) 277 0.29 81.4 1.00 7,000 86 1.23 0
2 EHD T539 M U 2 10 M 240 0.35 84.0 1.00 7,000 83 1.19 0
120 0.70 84.0 1.00 7,000 83 1.19 0
240 0,18 43,2 1,00 3 500 81 2,31 0
39W 1 EHD T539 M E 1 10 M 220 0,19 41,8 1,00 3 500 84 2,39 0
(848 mm) 240 0.34 81.6 1.00 7.000 86 1.23 0
2 EHD T539 M E 2 10 M 220 0,39 85,8 1,00 7 000 82 1,17 0
277 0.23 63.7 1.00 5,000 78 1.57 0
1 EHD T554 M U 1 10 M 240 0.26 62.4 1.00 5,000 80 1.60 0
54W 120 0.54 64.8 1.00 5,000 77 1.54 0
(45.2 in) 277 0.42 116.3 1.00 10,000 86 0.86 0
2 EHD T554 M U 2 10 M 240 0.48 115.2 1.00 10,000 87 0.87 0
120 0.95 114.0 1.00 10,000 88 0.88 0
240 0.26 62.4 1.00 5.000 80 1.60 0
54W EHD 1554 M E 1 10 M 220 0.29 63.8 1.00 5.000 78 1.57 0
240 0.48 115.2 1.00 10.000 87 0.87 0
mm) 2 EHD T554 M E 2 10 M 220 0,51 112,2 1,00 10 000 89 0,89 0

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit 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

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
				277	0.10	27.7	1.00	2,000	72	3.61	0.87
	1	H3D T524 C U 1 10	С	240	0.12	28.8	1.00	2,000	69	3.47	0.83
24W				120	0.25	30.0	1.00	2,000	67	3.33	0.80
(21.6 in)				277	0.20	55.4	1.00	4,000	72	1.81	0.87
	2	H3D T524 C U 2 10	С	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
				277	0.17	46.0	1.00	3,500	76	2.17	0.85
	1	H3D T539 C U 1 10	С	240	0.19	44.9	1.00	3,500	78	2.23	0.87
39W				120	0.37	44.4	1.00	3,500	79	2.25	0.88
(33.4 in)				277	0.29	81.4	1.00	7,000	86	1.23	0.96
	2	H3D T539 C U 2 10	С	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
				277	0.23	63.7	1.00	5,000	78	1.57	0.85
	1	H3D T554 C U 1 10	С	240	0.26	62.4	1.00	5,000	80	1.60	0.87
54W				120	0.54	64.8	1.00	5,000	77	1.54	0.83
(45.2 in)				277	0.42	116.3	1.00	10,000	86	0.86	0.93
	2	H3D T554 C U 2 10	С	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

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
80W				277	0.32	1.00	88.6	7000	79	1.13	0.90
	1	H3D T580 C U 1 10	С	240	0.37	1.00	88.8	7000	79	1.13	0.90
(57.1 in)				120	0.73	1.00	87.6	7000	80	1.14	0.91

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit 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_® (1% dimming) 120 V and 277 V dimming ballasts

- Dimming to 1%
- · Compatible with Lutron 3-wire fluorescent controls
- · Energy saving

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
	4	FDB-T524-277-1	С	277	0.15	36.0	1.00	2,000	56	2.78	0.67
24W	'	FDB-T524-120-1	U	120	0.31	31.2	1.00	2,000	64	3.21	0.77
(21.6 in)	2	FDB-T524-277-2	С	277	0.24	55.4	1.00	4,000	72	1.81	0.87
		FDB-T524-120-2		120	0.62	54.0	1.00	4,000	74	1.85	0.89
	4	FDB-T539-277-1	С	277	0.19	47.1	1.00	3,500	74	2.12	0.83
39W	ļ ,	FDB-T539-120-1		120	0.38	45.6	1.00	3,500	77	2.19	0.86
(33.4 in)	2	FDB-T539-277-2	С	277	0.32	85.9	1.00	7,000	82	1.16	0.91
		FDB-T539-120-2	U	120	0.76	91.2	1.00	7,000	77	1.10	0.86
	1	FDB-T554-277-1	С	277	0.25	69.3	1.00	5,000	72	1.44	0.78
54W	'	FDB-T554-120-1	U	120	0.58	69.6	1.00	5,000	72	1.44	0.78
(45.2 in)	2	FDB-T554-277-2	С	277	0.45	124.7	1.00	10,000	80	0.80	0.87
		FDB-T554-120-2		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.

^{*}For case type information see pgs. 328-331.

[†]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

										5	
							Б. II	0 .	0 1	Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
				277	0.11	30.0	1.00	2,000	67	3.33	0.80
	1	EC5 T524 J UNV 1	J	240	0.13	28.8	1.00	2,000	69	3.47	0.83
24W				120	0.24	28.8	1.00	2,000	69	3.47	0.83
(21.6 in)				277	0.20	54.8	1.00	4,000	73	1.82	0.89
	2	EC5 T524 J UNV 2	J	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
				277	0.16	43.3	1.00	3,500	81	2.31	0.90
	1	EC5 T539 J UNV 1	J	240	0.18	44.0	1.00	3,500	80	2.27	0.89
39W				120	0.37	44.0	1.00	3,500	80	2.27	0.89
(33.4 in)				277	0.30	83.0	1.00	7,000	84	1.20	0.94
	2	EC5 T539 J UNV 2	J	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
				277	0.21	56.5	1.00	5,000	88	1.77	0.96
	1	EC5 T554 J UNV 1	J	240	0.24	58.0	1.00	5,000	86	1.73	0.93
54W				120	0.48	57.9	1.00	5,000	86	1.73	0.93
(45.2 in)				277	0.40	110.1	1.00	10,000	91	0.91	0.98
	2	EC5 T554 J UNV 2	J	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

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit www.lutron.com/BallastTool

[†]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

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
				277	0.14	38.4	1.00	2,850	74	2.60	1.04
	1	H3D T536 G U 1 10	G	240	0.17	40.4	1.00	2,850	71	2.48	0.99
36W				120	0.33	39.2	1.00	2,850	73	2.55	1.02
(15.5 in)				277	0.26	71.3	1.00	5,700	80	1.40	1.12
	2	H3D T536 G U 2 10	G	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
				277	0.16	43.9	1.00	3,100	71	2.28	0.91
	1	H3D T540 G U 1 10	G	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
4014				277	0.27	74.0	1.00	6,200	84	1.35	1.08
40W	2	H3D T540 G U 2 10	G	240	0.32	76.0	1.00	6,200	82	1.32	1.05
(22.5 in)				120	0.64	76.0	1.00	6,200	82	1.32	1.05
				277	0.40	109.7	1.00	9,300	85	0.91	1.09
	3	H3D T540 G U 3 10	G	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
				277	0.20	54.8	1.00	4,000	73	1.82	0.91
	1	H3D T550 G U 1 10	G	240	0.23	54.6	1.00	4,000	73	1.83	0.92
50W				120	0.45	53.5	1.00	4,000	75	1.87	0.93
(22.5 in)				277	0.36	98.7	1.00	8,000	81	1.01	1.01
,	2	H3D T550 G U 2 10	G	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

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit 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

Lamon	Lamana			بلد يصمرا	السيما	السيميا	Dallast	Cuatana	Cuatana	Ballast	Relative
Lamp Watts	Lamps		Case	Input	Input Current	Input Power	Ballast Factor	System Lumens	System Efficacy	Efficacy Factor	System
(Length)	per Ballast	Model Number	Type*	Voltage (VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	Efficacy (RSE)
(Lengur)	Dallast	WOUGH NUMBER	турс	277	0.14	38.8	1.00	2,850	73	2.57	0.93
	1	EC5 T536 J UNV 1	J	240	0.17	39.6	1.00	2,850	72	2.53	0.91
36/39W	'	LOS 1330 0 0HV 1	J	120	0.17	39.6	1.00	2,850	72	2.53	0.91
(15.5 in)				277	0.26	72.0	1.00	5,700	79	1.39	1.00
(10.011)	2	EC5 T536 J UNV 2	J	240	0.20	73.2	1.00	5,700	78	1.37	0.98
	_	200 1000 0 011 2	U	120	0.61	73.2	1.00	5,700	78	1.37	0.98
				277	0.16	44.3	1.00	3,100	70	2.26	0.90
	1	EC5 T540 J UNV 1	J	240	0.18	43.2	1.00	3,100	72	2.31	0.93
	'	200 10 10 0 0111 1		120	0.36	43.2	1.00	3,100	72	2.31	0.93
				277	0.27	74.8	1.00	6,200	83	1.34	1.07
40W	2	EC5 T540 J UNV 2	J	240	0.32	76.8	1.00	6,200	81	1.30	1.04
(22.5 in)	_			120	0.64	76.8	1.00	6,200	81	1.30	1.04
				277	0.40	111.3	1.00	9,300	84	0.90	1.08
	3	EC5 T540 G UNV 3L ⁺⁺	G	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
				277	0.20	55.4	1.00	4,000	72	1.81	0.90
	1	EC5 T550 J UNV 1	J	240	0.23	54.0	1.00	4,000	72	1.85	0.93
50W				120	0.45	54.0	1.00	4,000	74	1.85	0.93
(22.5 in)				277	0.36	99.7	1.00	8,000	80	1.00	1.00
	2	EC5 T550 J UNV 2	J	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
				277	0.20	55.4	0.90	4,320	78	1.62	0.89
	1	EC5 T555 J UNV 1	J	240	0.23	55.2	0.90	4,320	78	1.63	0.90
55W				120	0.46	55.2	0.90	4,320	78	1.63	0.90
(20.7 in)				277	0.40	110.8	0.90	8,640	78	0.81	0.90
	2	EC5 T555 J UNV 2	J	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

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit 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 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

										Ballast	Relative
Lamp	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Watts	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
(Length)	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
				277	0.12	34.3	1.00	2,600	76	2.91	0.73
	1	EC5 T540 RW J UNV 1	J	240	0.14	34.5	1.00	2,600	75	2.89	0.72
25W				120	0.28	34.1	1.00	2,600	76	2.93	0.73
(22.5 in)				277	0.21	59.3	1.00	5,200	88	1.68	0.84
	2	EC5 T540 RW J UNV 2	J	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.

^{*}For case type information see pgs. 328-331.

^{**}Factory-tuned ballast factors available. To customize, visit www.lutron.com/BallastTool

[†]Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T4 Compact



Hi-lume_® (1% dimming) 120 V and 277 V dimming ballasts

- Dimming to 1%
- Compatible with Lutron 3-wire fluorescent controls
- Energy saving

										Ballast	Relative
	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Lamp	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
Watts	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)	(lm) [†]	(lm/W) [†]	(BEF)	(RSE)
26W		HL3-T426-277-1-S [‡]		277	0.12	33.2	0.95	1,710	51	2.86	0.74
(Triple	1	III 0 7400 400 4 0t	Α	400	0.00	04.0	0.05	1 710		0.04	0.70
Tube)		HL3-T426-120-1-S [‡]		120	0.26	31.2	0.95	1,710	55	3.04	0.79
32W		HL3-T432-277-1-S‡		277	0.13	36.0	0.95	2,280	63	2.64	0.84
(Triple	1		Α	100	0.05	07.0	0.05	2 2 2 2		0.55	0.00
Tube)		HL3-T432-120-1-S [‡]		120	0.35	37.2	0.95	2,280	61	2.55	0.82

^{*}For case type information see pgs. 328-331.

[†]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)



EcoSystem_® (5% dimming) universal voltage digital dimming ballasts

- Dimming to 5%
- · Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Energy saving

										Ballast	Relative
	Lamps			Input	Input	Input	Ballast	System	System	Efficacy	System
Lamp	per		Case	Voltage	Current	Power	Factor	Lumens	Efficacy	Factor	Efficacy
Watts	Ballast	Model Number	Type*	(VAC)	(A)	(W)	(BF)**	(lm)†	(lm/W) [†]	(BEF)	(RSE)
				277	0.08	20.8	0.95	1,140	55	4.57	0.82
18W	1	EC3D T418 K U 1 S [‡]	K	240	0.09	21.4	0.95	1,140	53	4.44	0.80
(Triple/				120	0.18	21.3	0.95	1,140	54	4.46	0.80
Quad				277	0.15	39.9	0.95	2,280	57	2.38	0.86
Tube)	2	EC3D T418 K U 2 S [‡]	K	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
				277	0.10	27.0	0.95	1,710	63	3.52	0.92
26W	1	EC3D T4MW K U 1 S [‡]	K	240	0.11	26.9	0.95	1,710	64	3.54	0.92
(Triple/				120	0.22	26.4	0.95	1,710	65	3.60	0.94
Quad				277	0.19	51.4	0.95	3,420	67	1.85	0.96
Tube)	2	EC3D T4MW K U 2 S [‡]	K	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
				277	0.12	33.2	0.95	2,280	69	2.86	0.91
32W	1	EC3D T4MW K U 1 S [‡]	K	240	0.14	33.6	0.95	2,280	68	2.83	0.90
(Triple				120	0.29	34.8	0.95	2,280	66	2.73	0.87
Tube)				277	0.24	65.5	0.95	4,560	70	1.45	0.93
Tube)	2	EC3D T4MW K U 2 S [‡]	K	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
				277	0.15	42.6	0.95	3,040	71	2.23	0.94
42W	1	EC3D T442 K U 1 S [‡]	K	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
(Triple Tube)				277	0.31	85.4	0.95	6,080	71	1.11	0.93
Tube)	2	EC3D T442 K U 2 S [‡]	K	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

[†]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) 120 V 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) [†]	System Efficacy (lm/W) [†]	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
18W (Triple/ Quad Tube)	2	2W-T418-120-2-S‡	В	120	0.41	49.2	0.95	2,280	46	1.93	0.70
26 W (Triple/	1	2W-T426-120-1-S [‡]	А	120	0.27	32.4	0.95	1,710	53	2.93	0.76
Quad Tube)	2	2W-T426-120-2-S [‡]	В	120	0.53	63.6	0.95	3,420	54	1.49	0.78
32W (Triple	1	2W-T432-120-1-S [‡]	А	120	0.33	39.6	0.95	2,280	58	2.40	0.77
(Triple Tube)	2	2W-T432-120-2-S [‡]	В	120	0.58	69.6	0.95	4,560	66	1.36	0.87

^{*}For case type information see pgs. 328-331.

[†]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.

Ballasts and drivers | Ballast models by country

The following ballast model numbers have certifications specific to certain countries. For details on these ballast models, visit www.lutron.com

		_ `		,	
EHD	T514	M E	<u> </u>	10	
EHD	T514	M E	2	10	
EHD	T521	M E	<u> </u>	10	
EHD	T521	M E	2	10	
EHD	T524	M E	<u> </u>	10	
EHD	T524	M E	2	10	
EHD	T528	M E	<u> </u>	10	
EHD	T528	M E	2	10	
EHD	T539	M E	1	10	
EHD	T539	ΜE	2	10	

NOTE: For specification information, please reference page 50

EHD T554 M E 1 10 EHD T554 M E 2 10

Brazil (INMETRO)

EHD T832 M E 1 10-B
EHD T832 M E 2 10-B
EHD T514 M E 1 10-B
EHD T514 M E 2 10-B
EHD T521 M E 1 10-B
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
EHD T554 M E 1 10-B
EHD T554 M E 2 10-B

China (CCC)

EHD T514 M E 1 10-C
EHD T514 M E 2 10-C
EHD T528 M E 1 10-C
EHD T528 M E 2 10-C
EHD T554 M E 1 10-C
EHD T554 M E 2 10-C

Canada (CSA)

EHD T832 C 347 110 EHD T832 C 347 210 EHD T832 C 347 117 EHD T832 C 347 217 EHD T528 C 347 110 EHD T528 C 347 210 EHD T554 C 347 110 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

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

Ballasts and drivers | Ballast models by country

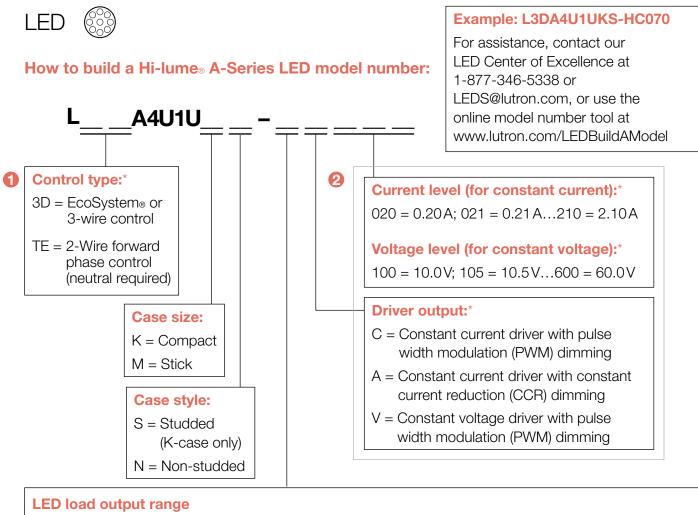
Argentina (S)

J (-)
H3D T817 C 220 1 10
H3D T817 C 220 2 10
H3D T817 C 220 1 17
H3D T817 C 220 2 17
H3D T817 G 220 1 10
H3D T817 G 220 2 10
H3D T817 G 220 1 17
H3D T817 G 220 2 17
H3D T817 G 220 3 10
H3D T817 G 220 3 17
H3D T825 C 220 1 10
H3D T825 C 220 2 10
H3D T825 C 220 1 17
H3D T825 C 220 2 17
H3D T832 C 220 1 10
H3D T832 C 220 2 10
H3D T832 C 220 1 17
H3D T832 C 220 2 17
H3D T832 G 220 1 10
H3D T832 G 220 2 10
H3D T832 G 220 1 17
H3D T832 G 220 2 17
H3D T832 G 220 3 10
H3D T832 G 220 3 17
H3D T840 C 220 1 10
H3D T840 C 220 2 10
H3D T840 C 220 1 17
H3D T840 C 220 2 17
H3D T514 C 220 1 10
H3D T514 C 220 2 10
H3D T521 C 220 1 10
H3D T521 C 220 2 10
H3D T528 C 220 1 10
H3D T528 C 220 2 10
H3D T536 G 220 1 10
H3D T536 G 220 2 10
H3D T540 G 220 1 10

H3D T540 G 220 2 10
H3D T540 G 220 3 10
H3D T550 G 220 1 10
H3D T550 G 220 2 10
HL3 T426 220 1 S
HL3 T426 220 1
HL3 T432 220 1 S
HL3 T432 220 1
EC3D T418 K 220 1
EC3D T418 K 220 1 S
EC3D T418 K 220 2
EC3D T418 K 220 2 S
EC3D T442 K 220 1
EC3D T442 K 220 1 S
EC3D T442 K 220 2
EC3D T442 K 220 2 S
EC3D T4MW K 220 1
EC3D T4MW K 220 1 S
EC3D T4MW K 220 2
EC3D T4MW K 220 2 S
EC5 T536 J 220 1
EC5 T536 J 220 2
EC5 T540 J 220 1
EC5 T540 J 220 2
EC5 T540 G 220 3L
EC5 T550 J 220 1
EC5 T550 J 220 2
EC5 T555 J 220 1
EC5 T555 J 220 2
EC5 T524 J 220 1
EC5 T524 J 220 2
EC5 T539 J 220 1
EC5 T539 J 220 2
EC5 T554 J 220 1
EC5 T554 J 220 2
EC5 T514 J 220 1
EC5 T514 J 220 2

EC5 T521 J 220 1
EC5 T521 J 220 2
EC5 T528 J 220 1
EC5 T528 J 220 2
EC5 T535 J 220 1
EC5 T817 J 220 1
EC5 T817 J 220 2
EC5 T825 J 220 1
EC5 T825 J 220 2
EC5 T832 G 220 2L
EC5 T832 G 220 3L
EC5 T832 G 220 3 17L
EC5 T832 J 220 1
EC5 T832 J 220 2

Ballasts and drivers | LED driver model numbers



(contact fixture manufacturer for specifications)

Class 2 constant voltage	Class 2 constant current	Isolated Non-class 2
A = 10.0V-12.0V	E = 0.20 A - 0.50 A 30 V - 54 V	constant current
3.3 A maximum	F = 0.51 A - 1.00 A 30 V - 54 V	Y = 0.20 A-0.50 A 30 V-60 V
B = 12.5V-20.0V	G = 0.20A-0.70A 8V-20V	Z = 0.51 A-1.00 A 30 V-60 V
C = 20.5V-24.0V	H = 0.20A - 0.70A 15V - 38V	
D = 24.5 V-38.0 V	I = 0.71 A-1.05 A 8V-20V	
	J = 0.71 A - 1.05 A 15 V - 38 V	
Isolated Non-class 2	K = 1.06A-1.50A 8V-20V	
constant voltage	L = 1.06A-1.50A 15V-38V	
X = 38.5 V-60.0 V	M = 1.51 A-2.10 A 8 V-20 V (30 W maximum)	

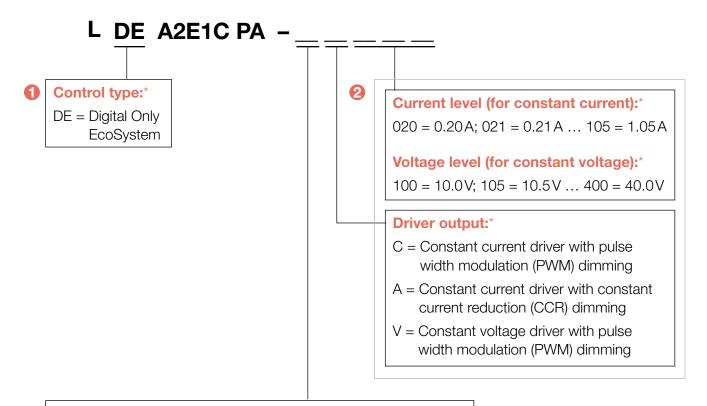
*For details on control types, see pg. 373.

Ballasts and drivers | **LED driver model numbers**





How to build an EcoSystem® LED model number (CE models):



LED load output range (see following pages for explanation and examples):

Constant current
G = 0.20A-0.70A 8V-20V
H = 0.20 A-0.70 A 15 V-40 V
I = 0.71 A - 1.05 A 8V - 20V
J = 0.71 A - 1.05 A 15 V - 40 V
40 V and 25 W maximum

Details for building a Lutron® LED driver model number



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	 Typically used for incandescent and MLV light sources Generally the only control used for LED retrofit lamps Most common method of dimming control 	 Retrofit projects Residential and commercial system applications Applications that have a neutral wire in the backbox
EcoSystem digital link control	 Digitally addressable and allows LED drivers to communicate and react to environmental changes Allows for rezoning without rewiring, and all links are miswire protected 	 Projects requiring digital control for individual fixture addressability Upgrade from analog 0-10V control Multi-zone applications Small, retrofit applications using Lutron Energi TriPak®
3-Wire control	 Requires a third line voltage control wire, resulting in more precise performance and less electrical noise Stable over long wire runs Easily wired 	LED dimming applications requiring precise control

For more information, please use the following resources:

- LED Driver Selection Tool (www.lutron.com/LEDBuildAModel)
- Lutron LED Control Center of Excellence (1-877-DIM-LED8 or email LEDs@lutron.com)

Ballasts and drivers | **LED driver model numbers**

Details for building a Lutron® LED driver model number



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	Down light or sconce	 One light source per driver (much like a fluorescent lamp with its associated ballast) For a pre-made LED array designed to operate at or below a set current level
Constant voltage	Cove, under-cabinet light or an area with a variable number of fixtures	 For one or more LED arrays connected in parallel Similar to electronic or magnetic low-voltage power supplies that often have 12V and 24V outputs

For more information, please use the following resources:

- LED Driver Selection Tool (www.lutron.com/LEDBuildAModel)
- Lutron LED Control Center of Excellence (1.877.DIM.LED8 or email LEDs@lutron.com)

Ballasts and drivers | LED driver model numbers

Details for building a Lutron LED driver model number



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)	 Fixtures that must be dimmed very low and still maintain consistent color Color mixing applications that require precise levels for each color Most commonly used driver output
Constant current reduction (CCR)	 Fixtures requiring a UL Class 2 rated output with an output voltage higher than the UL Class 2 PWM voltage level Applications where long wire runs may exist between the driver and the light engines and high performance dimming is required Applications that have strict EMI requirements, such as medical suites Applications with high motion activity or rotating machinery

For more information, please use the following resources:

- LED Driver Selection Tool (www.lutron.com/LEDBuildAModel)
- Lutron LED Control Center of Excellence (1.877.DIM.LED8 or email 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

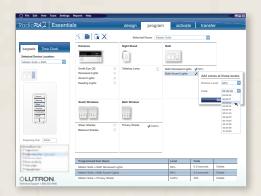
pg.380





Software and programming for Energi 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

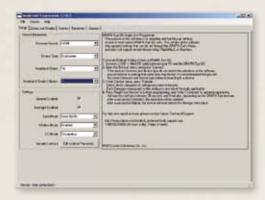
Features	Button-press programming	Software programming	
Scene control	Yes	Yes	
Room monitoring	Yes	Yes	
Individual device control	Yes	Yes	
0-100 devices	YES	Yes	
101-200 devices	Yes*	No	
Astronomic time clock	No	Yes	
Away mode	No	Yes	
Security mode	No	Yes	
Integration	No	Yes	
iPhone®1, iPad®1, Android®2 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.

¹iPhone and iPad are trademarks of Apple®, Inc., registered in the U.S. and other countries.

²Android™ is a trademark of Google®, Inc. Use of this trademark is subject to Google permissions.

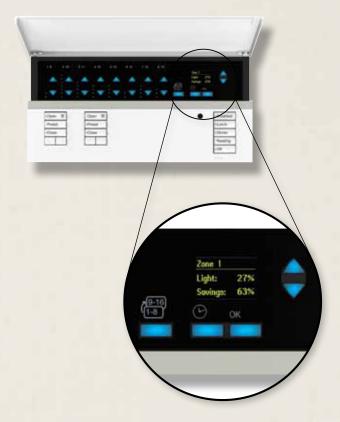
GRAFIK Eye QS systems can be programmed at the main unit via button-press programming or through software applications for the PC.



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[™] families

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.



Energi Savr Node programming screen for Apple iPod touch, iPad or iPhone mobile digital devices¹

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 0-10 V, systems and Phase Adaptive systems
- Handheld devices communicate with lighting system via WiFi router connected to lighting system
- Programming application available from iTunes_® online store1
- Energi Savr Node with EcoSystem_® and DALI must be programmed through software



Energi Savr Node with lid removed for button-press programming

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

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

Features	Software programming Softswitch®, Switching, 0-10V, EcoSystem®, DALI and Phase Adaptive	Button-press programming Softswitch, Switching, 0–10 V, and Phase Adaptive
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





Shading systems | Styles



Controllable roller shades

Roller shades are designed for ultra-quiet, precision control of daylight.

- Available models: roller 20_{TM}, roller 64_{TM}, roller 100_{TM}, roller 150_{TM}, roller 225_{TM}, roller 200CW, and roller 300™
- Provides maximum window coverage with the smallest possible light gaps, .75 in (19 mm) 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 24ft
- · 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





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, 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.

Shading systems | Fabrics

Product type	Fabric collection	Fabric options	Additional options	
Roller shades	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
Tensioned shades	Classico collection	Sheer	Frame color	No
		Dim-out	Frame color	No
		Blackout	Frame color	No
Dropomy trook	Avant™ collection	Soft fabrics Pinch pleats		Liner options
Drapery track	COM (see below)	SOIL IADRICS	Ripplefold	Liner options
Kirbé⊚ vertical drapery system	Avant collection	Sheer fabrics and privacy	Optional roller 64™ blackout shade	Cornice styles
Roman shades with CERUS _® safety technology	Avant collection	Soft fabrics	Hobbled style	Liner options
			Knife style	Liner options
			Flat style	Liner options
	COM (see below)		Casual style	Liner options
		Woven woods	Flat style	Liner options
				Edge binding
Cornice	Avant collection	Soft fabrics	Shape	No
Venetian blinds	Venetian collection	Wood slats	Valance style (optional)	Decorative tape
		Aluminum slats		No
Insulating honeycomb shades	Insulating honeycomb collection	Light filtering	Headrail materials variability	
		Room darkening		No
		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 longlasting 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.

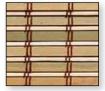






The Avant™ Collection

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.

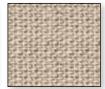




Insulating Honeycomb Fabric Collection

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 brushes 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 at 89% REPREVE® polyester (pre- and post-consumer waste) recycled content, which is sourced primarily from plastic water bottles. Visit www.lutron.com/greenscreen to find out more about Lutron's green fabric offering.

4.00 in (102 mm)



QS link power supply

9.50 in (241 mm)



Sivoia QS wireless 120V power supply panel with lid removed

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, lowvoltage link to provide power and communication for QS electronic drive units (EDUs), seeTouch® QS keypads and QS integration interfaces
- · Mounting tabs and small size allow for discrete installation
- Universal input voltage (100–240 V AC) enables global specification

Sivoia QS Wireless 120 V power supply panel (10 output)

- Works with Sivoia QS Wireless shades
- 24 V 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

9.50 in (241 mm)



3.90 in

 $(99 \, \text{mm})$

profile

Sivoia QS wired power supply panel with cover removed

4.31 in (109 mm)



Sivoia QS wired power supply panel (10 output)

Features

- Works with Sivoia QS wired 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 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 120 V x 20 A feed.
 Also available in other voltages

QS J-box Power Supply

- Works with Sivoia QS wired and wireless shades
- 24 V supply that provides power to shades, keypads (wired only), and accessories (wired only)
- Simple wiring scheme uses 4-conductor, lowvoltage 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 os protected electronically in the event of a miswire, and will automatically reset when wiring is correct

16 in (406 mm)



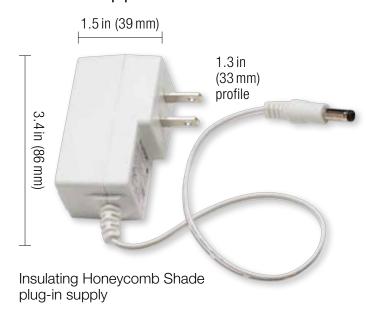
4.5 in $(114 \, \text{mm})$ profile

24.5 in (622 mm)

EcoSystem with shades Energi Savr Node™ with cover removed

Energi Savr Node™ with EcoSystem® for shades

- 24V== 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



9.25 in (234,95 mm)



Insulating Honeycomb Shade panel power 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 power panel power supply

- Universal input voltage 120-240V ~ 50/60 Hz
- · Electronic over current and over temperature protection
- Class 2 12 V 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

Shading systems | Control options

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, 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



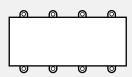
Lamp wiring socket tester pg. 425



Cable/wiring pg. 429



Lockable cover pg. 426



Mounting pg. 432



Shown actual size: 2-gang Architectural matte wallplate in White (VWP-2R-WH)

Product family features

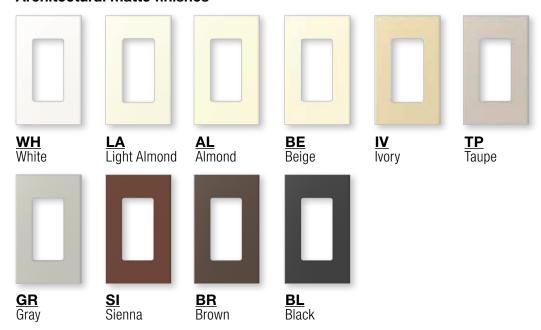
- Product comes with crisp beveled edge
- Architectural wallplates can be used with insert style seeTouch® QS keypads, QS keyswitches and accessories
- · All Lutron wallplates are screwless, seamless, and have no visible hardware; the front plate securely snaps into the alignment adapter plate
- · Customize 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: WP-R-SI)

Architectural matte finishes



Architectural metal finishes*



^{*}Metal finish wallplates include black plastic trim/adapter, visible from side. Match with separate Black (BL) or Midnight (MN) controls.

Wallplates and accessories | Architectural

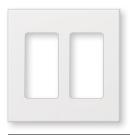
Wallplate options



VWP-R-XX1 1-gang*

W: 2.75 in (70 mm); H: 4.56 in (116 mm)

Profile: 0.30 in (8 mm)



VWP-2R-XX1 2-gang*

W: 4.56in (116mm); H: 4.56in (116mm)

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.

XX¹: 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.

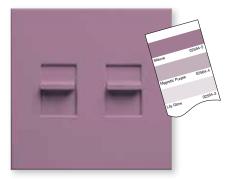
*Metal finish wallplates include black plastic trim/adapter, visible from side. Match with separate Black (BL) controls.

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
 \(\triangle \) controls (1500/2000 W)
- Nova controls For further information, go to 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

Cable jack



- F-style, 75-Ohm coaxial cable
- · Includes 1-gang wallplate

Single cable jack*

NT-CJ-XX1

Telephone jack



- 6-conductor jack, RJ11
- · Includes 1-gang wallplate

Single telephone jack*

NT-PJ-XX¹

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

XX¹: 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)

Isolated ground receptacles



- Receptacle is orange for easy ID and circuit delineation
- · Model number color code is for wallplate only
- · Includes 1-gang wallplate

Tamper resistant receptacles*

15A	125 V	NTR-15-TR- XX 1
20 A	125 V	NTR-20-TR-XX1

Receptacles

15A	125V	NTR-15- XX 1
20 A	125V	NTR-20- XX 1

Isolated ground receptacles*

15A	125 V	NTR-15-IG-OR- XX 1
20 A	125V	NTR-20-IG-OR- XX 1

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-XX1
20 A	125 V	GFCI	NTR-20-GFTR-XX1

XX¹: 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

15A	120/125V*	NTR-15-DDTR-XX1
20A	120/125V*	NTR-20-DDTR-XX1

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

	120/120 V	MIII ZO IIDIII <u>M</u>
20 A	120/125V*	NTR-20-HDTR-XX1
15A	120/125V*	NTR-15-HDTR-XX1

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	RP-FDU-10-WH
White	
120/125V	RP-FDU-10-BR
Brown	

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. Feedthrough 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

XX¹: 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.

Wallplates and accessories | Architectural

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 1
---------------	---------------------

Connectors for 6-port frame

F-style,

BNC jack

75-Ohm coaxial cable

BNC connector, 50-Ohm

Telephone/network jacks	
8-conductor, RJ45 category 3	CON-1P-C3- XX ²
8-conductor, RJ45 category 5e	CON-1P-C5E- XX ²
8-conductor, RJ45 category 6	CON-1P-C6- XX ²
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	

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.

XX¹: Architectural matte color codes, see pg. 401 XX²: Only available in White (WH) and Black (BL)

*Metal finishes are only available as separate wallplates. Match with separate Black (BL) controls and accessories.

CON-1C-XX²

CON-1B-WH



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



Satin finishes



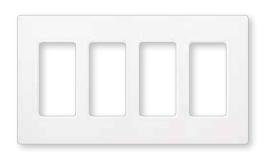
*Stainless Steel finish only available as separate wallplate. Match with separate Black (BL) or Midnight (MN) controls and accessories.

Designer wallplates



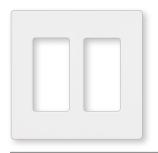
CW-1-**XX**¹ 1-gang* SC-1-**XX**²

W: 2.94 in (75 mm); H: 4.69 in (119 mm) Profile: 0.31 in (8 mm)



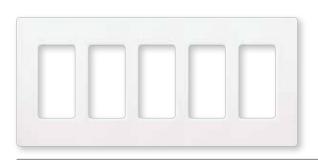
CW-4-XX¹ 4-gang* SC-4-XX²

W: 8.37 in (213 mm); H: 4.69 in (119 mm) Profile: 0.31 in (8 mm)



CW-2-**XX**¹ 2-gang* SC-2-**XX²**

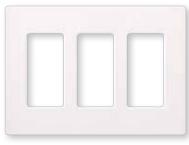
W: 4.75 in (121 mm); H: 4.69 in (119 mm) Profile: 0.31 in (8 mm)



5-gang* CW-5-XX¹ SC-5-XX²

W: 10.18 in (259 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



CW-3-**XX**1 3-gang* SC-3-XX²

W: 6.56 in (167 mm); H: 4.69 in (119 mm)

Profile: 0.31 in (8 mm)

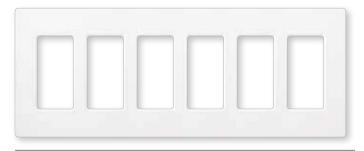
XX¹: Gloss and Stainless Steel color codes, see pg. 409

XX²: Satin color codes, see pg. 409

Multi-gang dimmer installations may require derating, see pg. 433.

*Stainless Steel finish wallplates include black plastic trim/adapter, visible from side. Match with separate Black (BL) or Midnight (MN) controls and accessories.

Designer wallplates



CW-6-XX¹ 6-gang* SC-6-XX²

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 3
	SC-CJ- XX 2

Telephone jacks



- 6-conductor telephone jack, RJ11
- Wallplate sold separately

Single telephone jack*	CA-PJ- XX 3
	SC-PJ- XX 2

Receptacles



- Wallplate sold separately indicator status
- Tamper resistant receptacles include tamper resistant shutter mechanism (shutters are white)

Tamper resistant receptacles*

CARS-15-TR- XX 3	125 V	15A
SCRS-15-TR-XX ²	125 V	15A
SCRS-20-TR-XX ²	125V	20 A

Receptacles*

125V CAR-15- XX 3	15A
125V SCR-15- <u>XX</u> ²	15A
125V SCR-20- XX ²	20 A

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*

15A	125 V	GFCI	CAR-15-GFTR- XX 3
15A	125 V		SCR-15-GFTR-XX2
20 A	125 V	GFCI	SCR-20-GFTR-XX ²

XX1: Gloss and Stainless Steel color codes, see pg. 409

XX²: Satin color codes, see pg. 409 XX3: 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

15A	120/125 V*	CAR-15-DDTR-XX1
		SCR-15-DDTR-XX2
20 A	120/125 V*	CAR-20-DDTR-XX1
		SCR-20-DDTR-XX2

Half dimming, tamper resistant

15A	120/125 V*	CAR-15-HDTR-XX1
		SCR-15-HDTR-XX2
20A	120/125 V*	CAR-20-HDTR-XX1
		SCR-20-HDTR-XX2

XX¹: Gloss color code and Stainless Steel,

see pg. 409

XX²: 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

120/125V White	RP-FDU-10-WH
120/125V	RP-FDU-10-BR
Brown	

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

Field customizable 6-port frame



- Shipped with six blanks in matching colors
- Connectors and wallplate sold separately
- · Connectors snap in (no tools required)

6-port frame*	CA-6PF- XX 1
	SC-6PF- <u>XX</u> ²

Connectors for 6-port frame

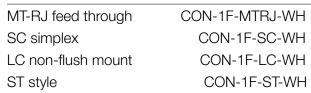
Telephone/network jacks



8-conductor, RJ45 category 3	CON-1P-C3- XX 3
8-conductor, RJ45 category 5e	CON-1P-C5E- XX ³
8-conductor, RJ45 category 6	CON-1P-C6- XX ³

Fiber jacks





Cable jack



F-style, CON-1C-XX3 75-Ohm coaxial cable

BNC jack



BNC connector, 50-Ohm CON-1B-WH

Connectors only for use with 6-port frame.

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

General purpose switches (120/277 V)

15A*	CA-1PS- XX 1
	SC-1PS- <u>XX</u> ²
15A*	CA-3PS- XX 1
	SC-3PS- <u>XX</u> ²
15A*	CA-4PS- XX 1
	SC-4PS- XX 2
	15A*

General purpose switch with locator light (120 V only)

Single-pole	15A*	CA-1PSNL- XX ⁴ SC-1PSNL- XX ⁵
3-way	15 A*	CA-3PSNL- XX ⁴ SC-3PSNL- XX ⁵
4-way	15A*	CA-4PSNL- XX ⁴ SC-4PSNL- XX ⁵

XX1: Gloss color codes, see pg. 409

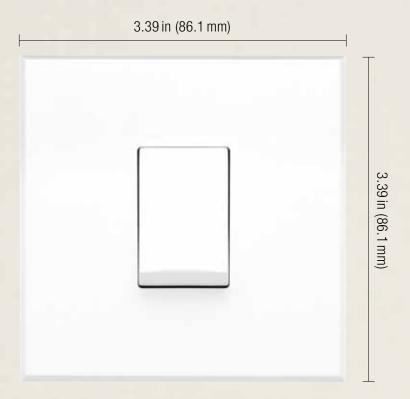
XX²: Satin color codes, see pg. 409

XX3: Only available in White (WH) and Black (BL)

XX⁴: Only available in Almond (AL), Ivory (IV), Light Almond (LA), and White (WH)

XX⁵: 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-FAW-M)

Matte finishes



AW Arctic White

Metallic finishes



MC Mica



<u> AR</u> Argentum

Metal finishes*



Satin Nickel



Bright Nickel



Bright Brass



Satin Brass



Satin Chrome



Bright Chrome



Gold Plated



QB Antique Brass



Antique Bronze

Model numbers

Single switch, 2-way



10 AX, 250 V∼

Unframed RN-SS10-B-FXX1-M RN-SS10-B-IXX1-M Framed (matching frame and insert)

Framed RN-SS10-B-BXX2-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)

Dual Switch, 2-way



2 x 10 AX, 250 V~

RN-DS10-B-FXX1-M

RN-DS10-B-IXX1-M

Unframed Framed

(matching frame and insert)

Framed RN-DS10-B-B**XX**2-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)

Model numbers

Shutter R/L switch



Unframed CPW0856-F**XX**1-M Framed CPW0856-IXX1-M

(matching frame and insert)

Framed CPW0856-B**XX**2-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)

Single momentary switch



- 10 AX, 250 V~
- For use with step/ impulse relay

RN-SM10-B-FXX1-M Unframed Framed RN-SM10-B-IXX1-M

(matching frame and insert)

Framed RN-SM10-B-BXX2-M

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: .87 in (22 mm)

Intermediate switch



10 AX, 250 V∼

Unframed RN-IS10-B-FXX1-M Framed RN-IS10-B-IXX1-M

(matching frame and insert)

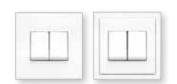
Framed RN-IS10-B-BXX2-M

(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 Intermediate switch



2 x 10 AX, 250 V~

Unframed CPW0732-FXX1-M CPW0732-IXX1-M Framed

(matching frame and insert)

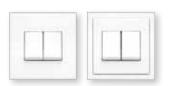
Framed CPW0732-B**XX**2-M

(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, 250 V~
- For use with step/ impulse relay

Unframed RN-DM10-B-F**XX**1-M Framed RN-DM10-B-IXX1-M

(matching frame and insert)

RN-DM10-B-BXX²-M Framed

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: .87 in (22 mm)

XX¹: Matte, metallic and metal color codes.

see pg. 416

XX²: Metal color codes, see pg. 416

Schuko socket



16A, 250V

RN-RS16-B-IXX1-M Framed (matching frame and insert)

Framed RN-RS16-B-BXX²-M

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: 1.21 in (30.7 mm)

RJ11 phone jack



- 6-conductor jack
- Cat 3

RN-RJ11-B-FXX1-M Unframed Framed RN-RJ11-B-IXX1-M

(matching frame and insert)

Framed RN-RJ11-B-BXX²-M

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: 1.02 in (26 mm)

French socket



- 16A, 250V
- With earthing pin (type E)

Framed RN-RE16-B-I**XX**¹-M

(matching frame and insert)

RN-RE16-B-BXX²-M Framed

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: 1.21 in (30.7 mm)

RJ45 network jack



- 8-conductor jack
- Cat 5

Unframed

RN-RJ45-B-FXX1-M RN-RJ45-B-I**XX**1-M

Framed (matching frame and insert)

Framed RN-RJ45-B-BXX2-M

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: 1.02 in (26 mm)

French phone jack



Framed RN-FRPJ-B-IXX1-M

(matching frame and insert)

Framed RN-FRPJ-B-B**XX**²-M

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: 0.68 in (17.2 mm)

XX¹: Matte, metallic and metal color codes,

see pg. 416

XX²: Metal color codes, see pg. 416

Sat jack



- F-style
- 75-Ohm
- Coaxial cable jack

Unframed RN-TF75-B-FXX¹-M Framed RN-TF75-B-IXX1-M

(matching frame and insert)

RN-TF75-B-B**XX**2-M

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: 0.43 in (11 mm)

Triplexer - terminated



- 5-2300 MHz
- Loss ≤ 4dB

RN-TRI1-B-IXX1-M Framed (matching frame and insert)

Framed RN-TRI1-B-BXX2-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



- 5-2300 MHz
- Loss ≤ 7 dB

Framed RN-TRI2-B-IXX1-M (matching frame and insert)

Framed RN-TRI2-B-BXX²-M

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: .83 in (21 mm)

Frames



RN-1GANG-B-IXX1-M 1-gang W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)



RN-2GANG-B-IXX1-M 2-gang W: 6.19 in (157.1 mm); H: 3.39 in (86.1 mm)



RN-3GANG-B-IXX¹-M 3-gang W: 8.98 in (228.1 mm); H: 3.39 in (86.1 mm)

Trim ring



For use when retrofitting dimmers in shallow backboxes

RN-TRRG-B-XX3-M Trim ring

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: .52 in (13.1 mm)

XX¹: Matte, metallic and metal color codes, see pg. 416

XX²: Metal color codes, see pg. 416

XX³: Available in Arctic White (AW), Mica (MC), Argentum (AR), and Black (BL)

Blank faceplate



Unframed RN-BLFP-B-FXX1-M Framed RN-BLFP-B-IXX1-M (matching frame and insert) RN-BLFP-B-BXX2-M Framed (black frame/metal insert) W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

1-port frame



 Use with any snap-in connectors. See pg. 404

Unframed RN-1PFR-B-FXX1-M RN-1PFR-B-IXX1-M Framed (matching frame and insert) Framed RN-1PFR-B-B**XX**²-M (black frame/metal insert) W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm) D: 0.43 in (11 mm)

2-port frame



• Use with any 2 snap-in connectors. See pg. 404

Unframed RN-2PFR-B-FXX¹-M Framed RN-2PFR-B-IXX1-M (matching frame and insert)

Framed RN-2PFR-B-BXX2-M

(black frame/metal insert)

W: 3.39 in (86.1 mm); H: 3.39 in (86.1 mm)

D: 0.43 in (11 mm)

Connectors for 1- and 2-port frames

Telephone/network jacks



8-conductor,	CON-1P-C3- XX 3
RJ45 category 3	
8-conductor,	CON-1P-C5E- XX 3
RJ45 category 5e	
8-conductor,	CON-1P-C6- XX ³
RJ45 category 6	

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,	CON-1C- XX ³
• '	CON-10-XX
75-Ohm coaxial cable	

BNC jack



BNC connector, 50-Ohm CON-1B-WH

Connectors only for use with 6-port frame.

Cable outlet module



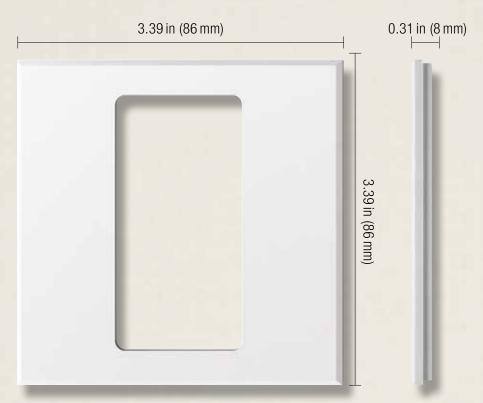
CON-COTL-XX3 Diameter range 1.8 to 8 mm

XX¹: Matte, metallic and metal color codes. see pg. 416

XX²: Metal color codes, see pg. 416

XX³: Only available in White (WH) and Black (BK)

Wallplates and accessories | International square wallplate for Pico®



Shown actual size: 1-gang International square wallplate for Pico 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



Pico mounted inside a one Pico control opening international square wallplate in Arctic White (PFP-1-B-FAW-CPN5692)

Wallplates and accessories | International square wallplate for Pico®

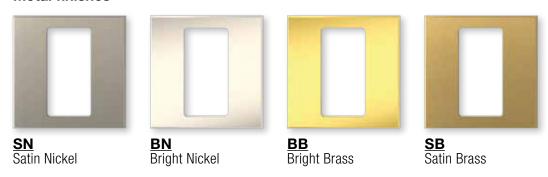
Color options

Use **BOLD** color code in model number (Example: PFP-1-B-FSN-CPN5692)

Matte finishes



Metal finishes*





Two Pico wireless controls in a two Pico control openings international square wallplate

Model numbers

Square wallplate

1 Pico control opening PFP-1-B-F**XX**¹-CPN5692 2 Pico control openings PFP-2-B-F**XX**¹-CPN5692

XX¹: Limited matte and metal color codes, see above.

*Metal finish wallplates include black plastic trim/adapter, visible from side. Match with separate Black (BL) Pico controls.

Wallplates and accessories | QS link power supply



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)

Suface 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, 100-240 VAC, NEMA 5-15 p	lug	QSPS-P1-10-50
Plug-in, 100-240 VAC, CEE 7/7 plug		QSPS-P2-10-50
Plug-in, 100-240 VAC, BS 1363 plug		QSPS-P3-10-50
J-box, 120VAC		QSPS-J1-1-50
DIN-rail, 100-240 VAC	STEP-PS/1AC/24DC/3.8/0	C2LPS-CPN5550
Panel, 120VAC		QSPS-P1-10-60
Panel, 230 VAC (CE)		QSPS-P2-10-60
Panel, 100 VAC (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 relif for mounting

Model numbers

60W electronic low-voltage transformer

ELVXF-60-T20-CE Terminals only

on primary and secondary

ELVXF-60-L21-CE Lead wires

one pair on secondary

ELVXF-60-L22-CE Lead wires

one pair on primary and secondary

105 W electronic low-voltage transformer

Terminals only ELVXF-105-T20-CE

on primary and secondary

Wallplates and accessories | Lamp socket wiring tester



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: 5.76in (146mm) Height: 0.76 in (19 mm) Diameter: 0.75 in (19mm)

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

Wallplates and accessories | Enclosure for QS control interfaces



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

Wallplates and accessories | Mounting rack for QS control interfaces



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 19 in 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

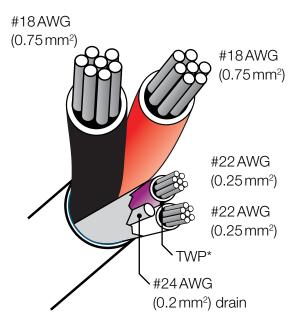
Mounting rack

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

Wallplates and accessories | Cable/wiring

4-conductor cable



Features

- Available in 500ft (150m) spool
- Five conductors: Common—#18 AWG (0.75 mm²) Power-#18AWG (0.75 mm²) MUX data—#22 AWG (0.25 mm²) MUX data-#22 AWG (0.25 mm²) Drain wire—#24 AWG (0.2 mm²)
- 300 V rated
- UL/CSA listed
- Capacitance of 22 AWG (0.25 mm²) 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

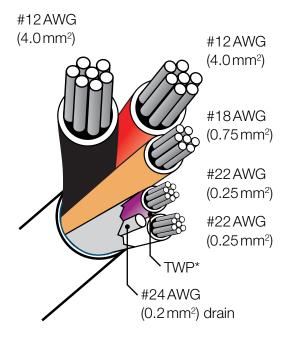
4-conductor cable

Plenum rated cable GRX-PCBL-346S GRX-CBL-346S Non-plenum rated cable

Compatible with GRAFIK Eye® QS and Energi Savr Node™ systems.

*TWP = twisted wire pair

5-conductor cable



Features

- Available in 250ft (75 m) or 500ft (150 m) spools
- Six conductors:

Common—#12AWG (4.0 mm²)

Power-#12 AWG (4.0 mm²)

MUX data—#22 AWG (0.25 mm²)

MUX data - #22 AWG (0.25 mm²)

Sense line—#18 AWG (0.75 mm²)

Drain wire—#24 AWG (0.2 mm²)

- 300 V rated
- UL/CSA listed
- Capacitance of 22 AWG (0.25 mm²) 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

Wallplates and accessories | Cable/wiring

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: nonplenum 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 300 V

Non-plenum rated

 Dual rated to a maximum of 300 V or 600 V 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)

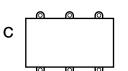
Standard ganging

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.



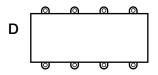
2-gang box

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)

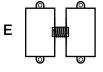


4-gang box

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 Savrm wireless sensors can be mounted temproarily with adhesive strips (P/N L-CMDPIRKIT)

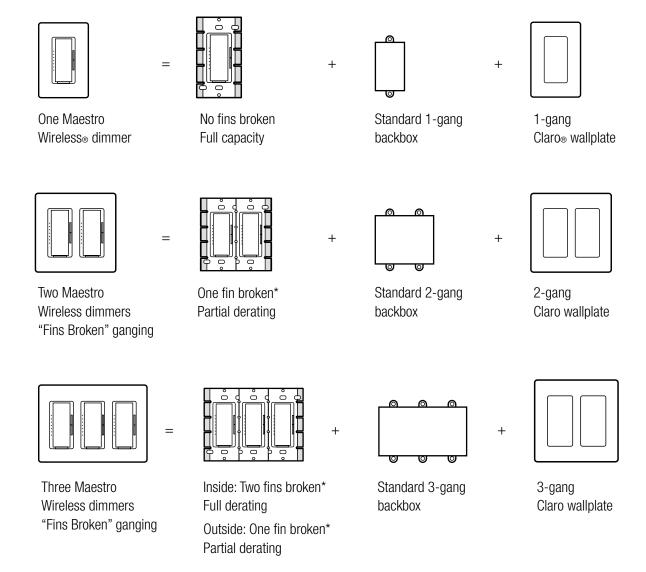




Wireless sensor mounting bracket [3.20 in (81 mm) diameter footprint, mounting brackets are spaced 1.80 in (46 mm) apart]

Wallplates and accessories | Ganging and derating

Standard ganging and fins broken derating examples:



For further information on ganging and derating, visit www.lutron.com/multigang.

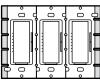
*The fins are scored and designed to be removed easily.

Derating table 1

RadioRA® 2







	<u> </u>	<u> </u>			
	No fins broken	1 fin broken	2 fins broken		
Incandescent					
Dimmoro	600 W	500 W	400 W		
Dimmers	1000W	800W	650W		
Magnetic low-voltage					
Dimamaara	600 VA/450 W	500 VA/400 W	400 VA/300 W		
Dimmers	1000 VA/800 W	800 VA/650 W	650 VA/500 W		
Electronic low-voltage					
Dimmers	600W	500W	400W		
Fluorescent/LED					
Hi-lume _® /EcoSystem _® /Hi-lu	me 3D/Hi-lume A-ser	ies LED Driver			
Dimmer	60 ballasts or 6A	50 ballasts or 5 A	35 ballasts or 3.5 A		
Lighting					
Switch	8A	6.5 A	5A		
Dual-voltage switch	8A	8 A (2-gang) or 7 A (3-gang)	7A		
Motor					
Switch	5.8A or 1/4HP	5.8 A or 1/4 HP 4.4 A or 1/6 h			
Dual-voltage switch	3A or 1/10HP	3A or 1/10HP 3A or 1/10HF			

Wallplates and accessories | Derating

Derating table 2

Maestro Wireless®







	<u> </u>	0 0			
	No fins broken	1 fin broken	2 fins broken		
Incandescent					
Dimmoro	600 W	500 W	400 W		
Dimmers	1000W	800W	650W		
Magnetic low-voltage					
Dimmoro	600 VA/450 W	500 VA/400 W	400 VA/300 W		
Dimmers	1000 VA/800 W	800 VA/600 W	650 VA/500 W		
Electronic low-voltage	·				
Dimmers	600W	500 W	400 W		
Fluorescent/LED	·				
Hi-lume _® /EcoSystem _® /Hi-l	ume 3D/Hi-lume A-series	s LED Driver			
Dimmer	60 ballasts or 6A	50 ballasts or 5 A	35 ballasts or 3.5 A		
Lighting					
Switch	6A	5A	3.5 A		
	8A	6.5 A	5A		
Dual-voltage switch	8A	8A	7A		
Motor					
Switch	3A or 1/10HP	3A or 1/10HP 3A or 1/10			
Dual-voltage switch	3A or 1/10HP	3A or 1/10HP	3A or 1/10HP		

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





Lighting Shade keypad column

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, typically on lighter colored buttons



Backlit text, typically on darker colored buttons (BR, BL, SI, MN)

Backlit buttons/text

Depending on color of buttons, engraving is either displayed as backlit text or on backlit buttons.

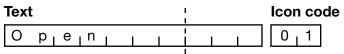
Engraving

- 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 for further information.

Example



For open icon window #1:



Seven characters maximum when using icon

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

APPEAR	ANCE ON:
LICHT*	DVBK**

	LIGHT*	DARK** BUTTON
CODE	COLOR	COLOR
01.	田	
02.	田	
03.		
04.		
05.		
06.		
07.		
08.		
09.	\Box	
10.	$\overline{}$	$\overline{}$
11.	÷	Ö
12.	*	
13.	0	0
14.	•	•
15.		
16.		

CODE	LIGHT* BUTTON COLOR	DARK** BUTTON COLOR		
17.				
18.		NA CANA		
19.	-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	-\ \'		
20.	***			
21.		P		
22.	22.			
23.	(A)	(A)		
24.	((
25.	C	Q		
26.	수	宁		
27.	T	L		
28.				
29.	!	L .		
30.	73	7		
31.	•	6		
32.				

CODE	BUTTON COLOR	BUTTON COLOR		
33.				
34.				
35.	è	Ò		
36.	1/4	1/4		
37.	1/2	1/2		
38.	3/4	3/4		
39.	39. †			
40.	«	«		
41.	»	>>		
42.	G,	G		
43.	*	\times		
44.	م ري	~~*		
45.				
46.	Z	Z.		
47.	*	*		
48.	ı			

LIGHT*

DARK**

	LIGHT* BUTTON	DARK** BUTTON
CODE	COLOR	COLOR
49.	0	0
50.	\	
51.	^	<u> </u>
52.	•	•
53.	•	•
54.	•	_
55.	•	•
56.	4	
57.	44	*
58.	>>	>>
59.	I44	K
60.	>>	>>
61.		
62.	II	
63.	R	D.
64.	ტ	ψ

Ivory (IV)

Gray (GR) Light Almond (LA) Eggshell (ES)

Biscuit (BI)

Snow (SW) Taupe (TP)

^{*} Light button colors include: White (WH) Beige (BE) Almond (AL)

^{**} Dark button colors include: Black (BL) Brown (BR)

Wallplates and accessories | Custom controls

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



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



Interior



Aliante_®

Aliante is designed for ballrooms and private offices, or over conference room tables, reception desks, dining tables, and kitchen islands.

- Length: 4ft or 5ft (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

Rotare®

Rotare is designed for lobbies, atriums and private offices, or over conference room tables, reception desks, dining tables, and kitchen islands.

- Length: 4ft 4in (adjustable)
- · Light Orientation: direct/indirect
- Lamp: dimmable and non-dimmable 1- or 2-lamp linear fluorescent T5 HO or T5 HE*
- · Interior use

Overview — Pendants

Interior



Interior



L'ale®

L'ale is designed for ballrooms, lobbies, atriums and private offices, or over conference room tables and reception desks.

- Length: 4ft 8in (adjustable)
- · Light Orientation: direct/indirect
- · Lamp: dimmable and non-dimmable 2-lamp compact fluorescent*
- · Interior use

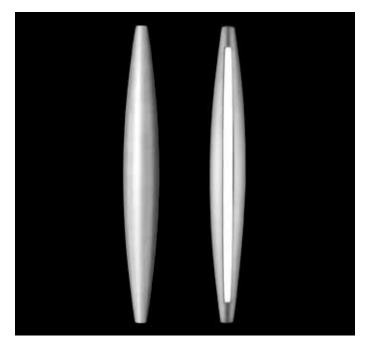
Daedalus_®

Daedalus is designed for ballrooms, lobbies, atriums, reception areas, galleries restaurants and entry ways.

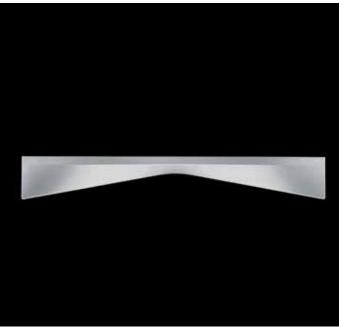
- Length: 5ft (adjustable)
- · Light Orientation: direct
- Lamp: 8 dimmable MR-11 low-voltage or non-dimmable LED MR-11 (available)*
- · Interior use

Overview — Sconces

Exterior/interior



Exterior/interior



Aliante_®

Aliante is designed for flanking doors, on columns, on building facades, and between windows/elevators.

- · Length: 4ft or 5ft
- · Light Orientation: direct/indirect or indirect only
- · Lamp: dimmable and non-dimmable linear fluorescent T5 HO and T5 HE*
- · Exterior/interior use

Rotare®

Rotare is designed for cove lighting in lobbies, conference rooms, reception areas and private offices.

- · Length: 4ft 4in
- · Light Orientation: indirect
- · Lamp: dimmable and non-dimmable linear fluorescent T5 HO and T5 HE*
- · Exterior/interior use

Overview — Sconces

Exterior/interior



Exterior/interior



Interior



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 nondimmable CFL, dimmable white LED (exterior) nondimmable CFL, HID
- · Exterior/interior use
- · Energy Star® qualified with Tu-Wire® control option

ENERGY STAR

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 colorchanging RGB LED
- · Exterior/interior use

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

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						interio Brush				
Model	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	0	0	0	•	•	•	o	o	o	0	0	o	o	0
Aliante Interior Sconce	0	0	0	•	•	•	0	0	0	0	0	0	0	0
Aliante Exterior Sconce	•	•	0	х	х	х	x	х	х	х	х	х	х	х
Daedalus⊚ Pendant	х	х	х	•	•	•	0	0	0	0	0	0	х	х
Inflection⊚ Sconce	0	0	0	•	•	•	0	0	0	0	0	0	х	х
L'ale _® Pendant	х	х	х	•	•	•	0	0	0	0	0	0	х	х
L'ale Sconce	0	0	0	•	•	•	0	0	0	0	0	0	х	х
Rotare® Pendant/Sconce	o	0	0	•	•	•	0	0	o	o	0	0	х	х
Silvus _® Interior Sconce	•	•	0	o	0	0	0	0	o	o	0	0	х	х
Silvus Exterior Sconce	•	•	0	х	х	х	х	х	х	х	х	х	х	х

Automotive Paint ²				Powder Coat
Standard colors	Special colors ³		Brushed Anodized ⁴	Available colors
Titanium	Arctic White	Flame	Clear	Silver
Slate	Pearl White	Copper	Black	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: 4in
- 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	Matte	Stainless	Clear	Wheat	Oil-Rubbed
	White*	Black	Metal	Bright Alzak	Alzak	Bronze
Round*	•	•	•	•	•	•
Round Trimless	•	•	•	•	•	•
Round Pinhole	•					
Round Slotted						
Pinhole						
Square	•	•	•			
Square Trimless	•	•				
Square Pinhole	•					





Trimless



Pinhole







Trimless



Pinhole

Lens Options

	Micro Prism Solite _™ *	Frosted Glass	None
Round	•	•	•
Square	•	•	•

Decorative Trim Options

	Clear Glass	Frosted Glass Ring	Tier Center Frosted Glass	Stainless Steel Bezel	
Round	•	•	•	•	
Square	•	•			



Round Clear Glass



Round Frosted Glass Ring



Round Tier Center Frosted Glass



Round Stainless Steel Bezel



Square Clear Glass



Square Frosted Glass Ring

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.

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 20 Amp 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.

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).

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, lowvoltage 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. Dimout 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

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.

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 $\geq 6 \, \text{mA}$). 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.

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.

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 120 VAC in U.S., 240 VAC in the U.K. 100 V 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 12V). 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.

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 (multilocation) 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.

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.

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.

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 (1) (1) Listed.

Specifications

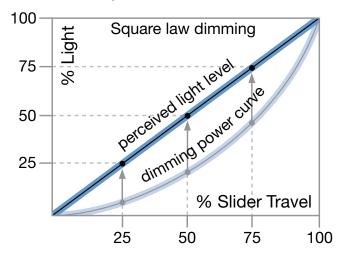
Specifications define the qualitative requirement for products, materials, workmanship, and administrative requirements upon which the project is based. Specifications provide detailed requirement for the physical properties, chemical constituents, performance requirements, and standards of workmanship 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 I FD.

Surge Protection

Circuitry that protects Lutron products against a near lightning strike surge of 6000 V, 3000 A, 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 24 V, 12 V or 6 V 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 (l) 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 (4) 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 60 Hz frequency. In residential applications the standard service is referred to as 120/240 V, 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 277/480 V, which also known as 3-phase service. The interior lighting in these applications generally uses 277 V feeds. To learn more about voltage supply go to 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: 3 in x D: 2.75 in).

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.

Λ	c	.: _	_
μ	۱T۲	ΊC	ìa
-			_

7 tirioa					
Algeria	230 V (CE)	Malawi	230 V	China, People's	
Angola	220V	Mali	220 V	Republic of	220 V
Benin	220V	Mauritania	220 V	East Timor	220 V
Botswana	230 V	Mauritius	230 V	Hong Kong	220 V
Burkina Faso	220V	Morocco	127/220V	India	230 V
Burundi	220 V	Mozambique	220V	Indonesia	127/230 V
Cameroon	220V	Namibia	220V	Iraq	230 V
Canary Islands	220 V	Niger	220V	Israel	220 V
Cape Verde	220 V	Nigeria	240V	Japan	100/200 V
Central African	0001/	Rwanda	230V	Jordan	230 V
Republic	220V	Réunion Island	220 V	Kazakhstan	220 V
Chad	220V	São Tomé	220 v	Kuwait	240 V
Comoros	220V	and Principe	220V	Kyrgyzstan	220 V
Congo, Dem. Rep. of (former Zaire)	220V	Senegal	230 V	Laos	230 V
Congo, People's	220 V	Seychelles	240 V	Lebanon	110/220V
Rep. of	230 V	Sierra Leone	230 V	Macau	220 V
Cote d'Ivoire	220V	Somalia	220V	Malaysia	240 V
Djibouti	220 V	South Africa	220/230V	Maldives	230 V
Egypt	220 V	Swaziland	230V	Mongolia	220 V
Equatorial Guinea	220 V	Tanzania	230 V	Myanmar	0001/
Eritrea	230 V	Togo	220 V	(formerly Burma)	230 V
Ethiopia	220 V	Tunisia	230 V	Nepal	230 V
Gabon	220 V		230 V 240 V	Oman	240 V
Gambia	230 V	Uganda		Pakistan	220V
Ghana	230 V	Zambia	230 V	Philippines	220V
Guinea	220 V	Zimbabwe	220 V	Qatar ¹	240 V
Guinea-Bissau	220 V	Asia		Russia	220V
Ivory Coast		Afghanistan	220V	Saudi Arabia ¹	127*/220V
(see Cote d'Ivoire)		· ·		Singapore	230 V (CE)
Kenya	240 V	Bahrain	230 V	South Korea	220V
Lesotho	220 V	Bangladesh	220V	Sri Lanka	230 V
Liberia	120V	Bhutan	230 V	Syria	220 V
Libya	127V	Brunei	240 V	Tajikistan	220 V
Madagascar	220 V	Cambodia	230 V	Taiwan	110V

^{*}Currently available, but soon to be phased out.

¹Scheduled to require products with CE marking in the future.

Thailand	220V (CE)	Gibraltar	240V	Spain	230 V (CE)	
Turkey	230 V (CE)	Great Britain		Sweden	230 V (CE)	
Turkmenistan	220V	(see United Kingdom)		Switzerland	230V (CE)	
United Arab		Greece	240V (CE)	Ukraine	220V	
Emirates	220 V	Hungary	230 V (CE)	United Kingdom	230V (CE)	
Uzbekistan	220 V	Iceland	230 V (CE)	Vatican City	230 V (CE)	
Vietnam	127/220V	Ireland (Eire)	230 V (CE)	Wales	- (- ,	
Yemen, Rep. of	220/230V	Isle of Man	240 V	(see United Kingdo	om)	
•		Italy	230 V (CE)	N.L. II. A	/	
Europe		Latvia	220 V (CE)	North America/		
Albania	220 V	Liechtenstein	230 V (CE)	Central Ame	erica/	
Andorra	230 V	Lithuania	230 V (CE)	Caribbean		
Armenia	220 V	Luxembourg	240 V (CE)	Anguilla	110V	
Austria	230 V (CE)	Macedonia		Antigua	230 V	
Azerbaijan	220 V	(FYROM)	230V (CE)	Aruba	127V	
Azores	220V	Madeira	220V	Bahamas	120V	
Balearic Islands	220 V	Malta	240V (CE)	Barbados	115V	
Belarus	220 V	Moldova	220/240V	Belize	110/220V	
Belgium	230 V (CE)	Monaco	127/220V	Bermuda	120V	
Bosnia	220V	Montenegro	220 V	Canada	120/347 V	
Bulgaria	230 V (CE)	Netherlands	230 V (CE)	Cayman Islands	120V	
Channel Islands	230V	Netherlands		Costa Rica	120V	
Croatia	230 V (CE)	Antilles	127/220V	Dominica	230 V	
Cyprus	240 V (CE)	Norway	230 V (CE)	Dominican	100/040\/	
Czech Republic	230 V (CE)	Northern Ireland (see United Kingdo	om)	Republic El Salvador	120/240V 115V	
Denmark	230 V (CE)	Poland	230 V (CE)			
England	2001 (02)	Portugal	230 V (OE)	Greenland Grenada	220V	
(see United Kingdo	om)	Romania	230 V (OE)	(Windward Is.)	230V	
Estonia	230 V (CE)	San Marino	230 V (OL)	Guadeloupe	230V	
Faroe Islands	220V	Scotland	200 V	Guatemala	120V	
Finland	230 V (CE)	(see United Kingdo	om)	Haiti	110V	
France	230 V (CE)	Serbia	, 220V	Honduras	110V	
Georgia	220V	Slovak Republic	230 V (CE)	Jamaica	110V	
Germany	230 V (CE)	Slovenia	230V (CE)	Martinique	220 V	

Appendix | Voltages by country

		Oceania		South America		
Mexico	127 V	American Samoa	120V	Argentina	220 V	
Montserrat		Australia	240 V	Bolivia	220/230V	
(Leeward Is.)	230 V	Cook Islands	240 V	Brazil	127/220V	
Nicaragua	120V	Fiji	240 V	Chile	220 V	
Panama	110/120V	Guam	110V	Colombia	110V	
Puerto Rico	120/277 V	Kiribati	240 V	Ecuador	120-127 V	
St. Kitts and Nevis (Leeward Is.)	230 V	Marshall Islands	110V	Falkland Islands	240 V	
,	230 V	Micronesia		French Guiana	220 V	
St. Lucia (Windward Is.)	240V	(Federal States of)	120 V	Guyana	240 V	
St. Vincent and		Nauru	240 V	Paraguay	220 V	
the Grenadines		New Caledonia	220 V	Peru	220 V	
(Windward Is.)	230 V	New Zealand	230 V (CE)	Suriname	127V	
Trinidad & Tobago	115V	Palau	110-120V	Uruguay	220V	
United States		Palmyra Atoll	120 V	Venezuela	120V	
of America	120/277 V	Papua New Guinea	240V			
Virgin Islands	115\/	Samoa	230 V	Contact your Lutro	nn _®	
(British and U.S.)	115V	Solomon Islands	220 V	representative	71 TW	
		Tahiti	110/220V	for countries not lis	sted.	
		Tonga	240 V			
		Tuvalu	220/240V			
		Vanuatu	230 V			

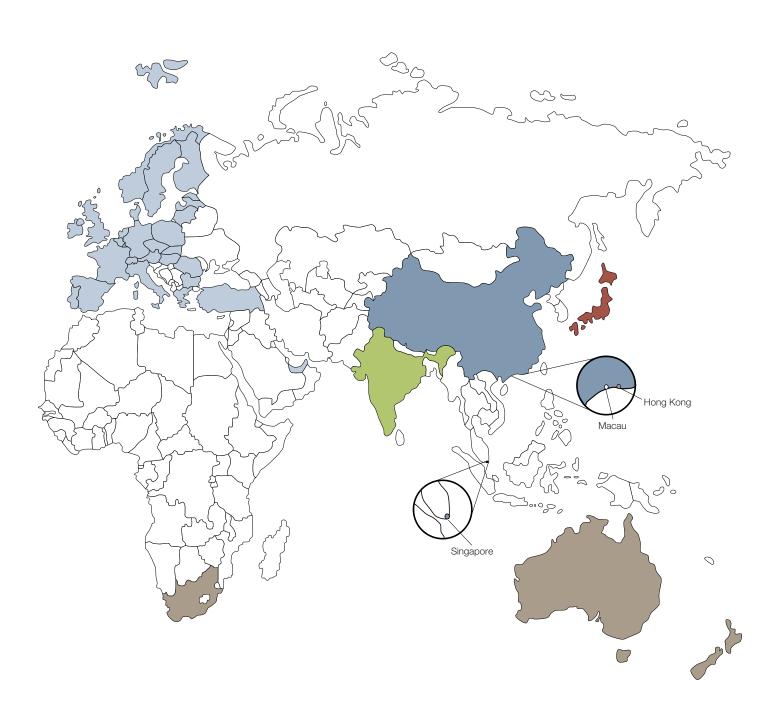
Primary source: www.kropla.com/electric2.htm

Appendix | International radio frequencies

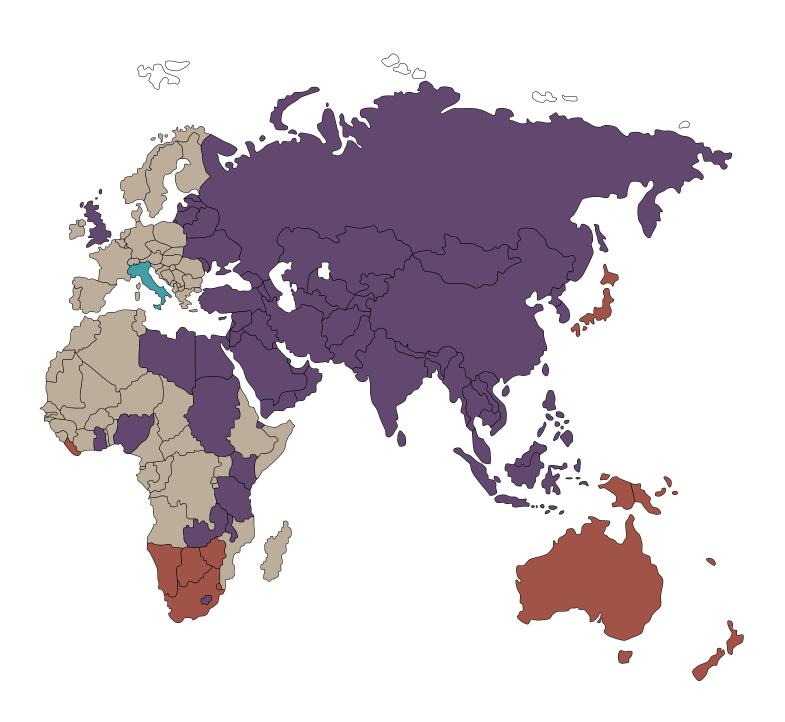
	434 MHz (431– 437 MHz)	Limited 434 MHz (433.05– 434.79 MHz)	Limited 315 MHz (312.3– 314.8 MHz)	865 MHz (865.5– 866.5 MHz)	868 MHz (868– 870 MHz)	Limited 868 MHz (868.0– 868.6 MHz)
USA	•					
Canada	•					
Mexico	•					
Brazil	•					
Chile	•					
Panama	•					
Costa Rica	•					
Ecuador	•					
Dominican 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.



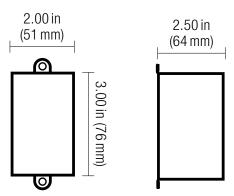






Backbox dimensions

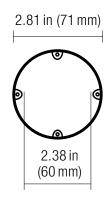
U.S. style backbox



1-gang box

Width: 2.00 in (51 mm) Height: 3.00 in (76 mm) Depth: 2.50 in (64 mm)

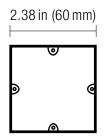
Round backbox (EBB-15-RD)

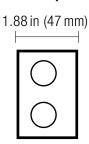


1-gang box

Width: 2.81 in (71 mm) Height: 2.81 in (71 mm) Depth: 2.38 in (60 mm)

Square backbox (EBB-15-SQ)

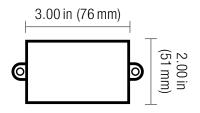


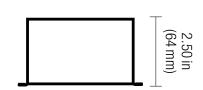


1-gang box

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

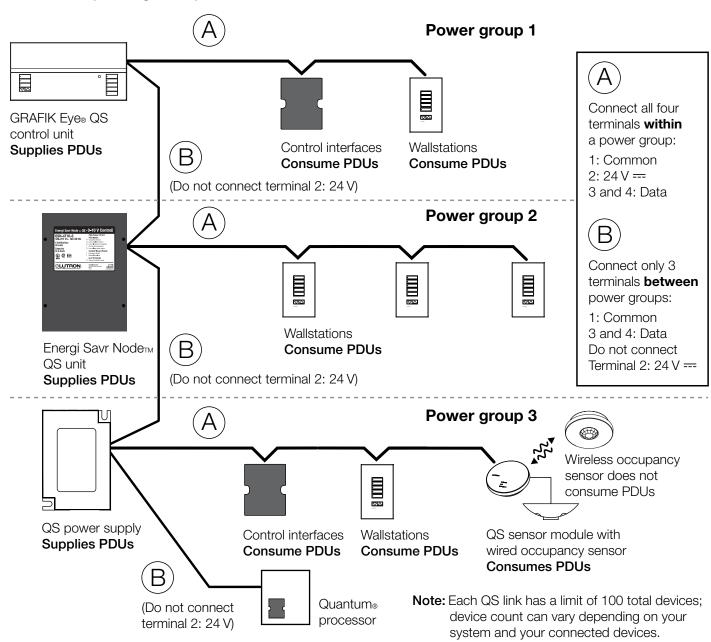
On the QS link, there are devices that supply power and devices that consume power. Each device has a specific number of Power Draw Units (PDUs) it either supplies or consumes.

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 powersupplying 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
	3-zone phase control	QSGRJ-3P	3			
	4-zone phase control	QSGRJ-4P	4			
	6-zone phase control	QSGRJ-6P	6		3	
	6-zone EcoSystem®	QSGRJ-6E	6		3	
	8-zone EcoSystem	QSGRJ-8E	8			
GRAFIK Eye _® QS	16-zone EcoSystem	QSGRJ-16E	16] - 1		0
GRAFIK Eye® Q3	6-zone DALI with KNX	QSGRK-6D-KNX	6			
	8-zone DALI with KNX	QSGRK-8D-KNX	8		2	
	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			
	Softswitch _®	QSN-4S16-S				
	0-10V	QSN-4T16-S				
	0-10V/Switching (DIN-rail)	QSNE-4T10-D	4		14	
	Switching (DIN-rail)	QSNE-4S10-D				0
Energi Savr	DALI (DIN-rail)	QSNE-2DAL-D	16	1	3	
Node	EcoSystem single-link	QSN-1ECO-S] '	30	
	EcoSystem dual-link	QSN-2ECO-S	Up to			
	EcoSystem dual-link (DIN-rail)	QSNE-2ECO-D	100		3	
	Phase-adaptive (DIN-rail)	QSNE-4A-D	4		4	
OS link	Plug-in booster	QSPS-P1-1-50		0	8	
QS link power supply	10-Output shade panel	QSPS-P1-10-60	0	1	8 per output	0

QS device	Product description	Model number	Zone count	Device count	PDUs supplied	PDUs consumed
	QS sensor module	QSM2-4W-C		1		3
	Added wired occ/vac sensor	LOS				2
QS sensor	Added wired daylight sensor	EC-DIR-WH	0			0.5
module	Added wired IR receiver	EC-IR-WH		0	0	0.5
	Added 4-button EcoSystem wallstation	CC-4BRL-WH				1
	Added Pico _® wired control	PX				0.5
	seeTouch _® QS keypad	QSWS2-	0		0	1
	International QS keypad wallstation	QSWE-	0			1
	QS timeclock	QSGR-TC-35- WH-CPN5825	0			3
Other QS	QS contact closure interface	QSE-IO	Up to 5	1		3
accessories	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
Shades	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 unequaled 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

World Headquarters 1.610.282.3800

Technical Support Center 1.800.523.9466 (Available 24/7)

Customer Service 1.888.LUTRON1















