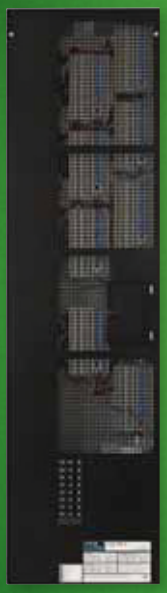
Volume 3: Solutions for an entire home, building or campus

Systems



LCP128™

Softswitch128® (XPS)

GRAFIK Eye® 4000

Quantum®

HomeWorks® QS

Components

Keypads

Temperature Controls

RF wireless controls

Sensors

Fluorescent ballasts and LED drivers

Shades

LUTRON®

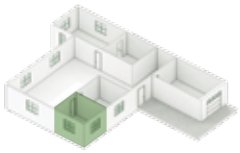
save energy with Lutron™ ®

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

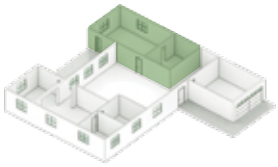
Commercial

Residential



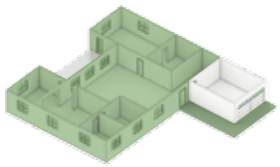
Volume 2 (P/N 367-2066)
Solutions for small/medium rooms

- 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



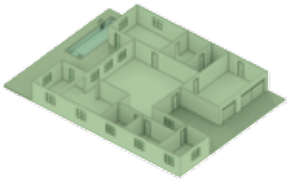
Solutions for large/multiple rooms

- 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



Lutron® | Table of contents

Introduction

System overviews

System components

Appendix

Sub-controls: Keypads and wireless controls

Ceiling-mount infrared receiver
Infrared (IR) remote control
Entrance control
Traditional opening wallstation
2-button wallstation
Architectural wallstation
Slim-button wallstation
Large-button wallstation
European-style wallstation
Architrave® wallstation
seeTouch® keypad
seeTouch window treatment keypad
Partition status keypad/wallstation
Keyswitch
Multi-channel theatrical consoles
EcoSystem IR remote control and IR receiver
QS infrared (IR) eye
Pico® wireless control
Pico wired control
EcoSystem® wallstation
seeTouch QS keypad
International seeTouch QS wallstation
QS Keyswitch
HomeWorks QS designer-style seeTouch wired keypad
HomeWorks QS designer-style seeTouch wireless keypad
HomeWorks QS Architectural-style seeTouch keypad
HomeWorks QS International seeTouch keypad
HomeWorks QS wireless tabletop keypad
HomeWorks QS dynamic keypad
HomeWorks QS visor control transmitter
seeTemp wall control
TouchPRO Wireless® thermostat

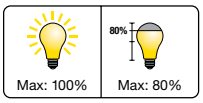
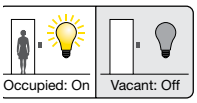
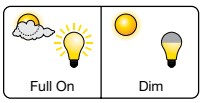
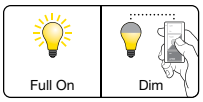
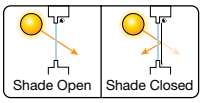
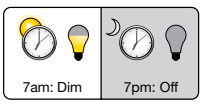
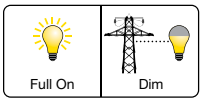
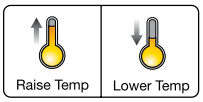
Energy-saving sensors

Radio Powr Savr™ ceiling-mount wireless occupancy/vacancy sensor
Radio Powr Savr corner, hallway, and wall-mount occupancy/vacancy sensors
Radio Powr Savr ceiling-mount daylight sensors
Wall-mount temperature sensor
Radio shadow sensor
LOS-C series ceiling-mount occupancy sensor
LOS-W series wall-mount occupancy sensor
High-bay occupancy sensor
Photosensor
Daylight sensor
Daylight sensor packages
Infrared partition status sensor
Power packs

Control interfaces

Wallbox contact closure input interface
Contact closure output interface
Contact closure input/output interface
Ethernet interface
RS232 interface
Time clock/programming interface
DMX 512 output interface
DMX 512 input interface
Infrared interface
Daylight controller
AC motor group controller
Sivoia® QED controller
QS contact closure input/output interface
QS RS232/Ethernet interface
QS DMX512 output control interface
QS sensor module
QS motor group controller
Energy meter
Emergency lighting interface
Data link repeater
HVAC controller
HomeWorks QS visor control receiver

Energy-saving strategies

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

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

Whole building/campus solutions

Commercial

- Retail stores
- Restaurants
- Ballrooms
- Lobbies
- Auditoriums
- Building exteriors
- Parking garages
- Office buildings
- Hotels
- Casinos
- Health-care facilities
- Convention centers
- Stadiums
- Colleges/Universities
- Office buildings
- Corporate headquarters

Whole home solutions

Residential

- Medium and large residences

Systems available for whole building

Softswitch128® (XPS)
- Panel-based switching
- Easy to install and program
- Integrated astronomical time clock

LCP128™
- Panel-based switching and dimming
- Easy to install and program
- Integrated astronomical time clock

GRAFIK Eye® 4000
- Dimming, switching and daylight control
- PC-based set-up software
- Partition status indication

Softswitch128 (XPS)

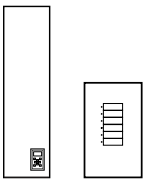
INTERNATIONAL MODELS AVAILABLE

Offering occupancy sensing, scheduling, and manual control, the XPS system offers flexible lighting control for switching applications. The Liquid Crystal Display (LCD) controller provides menu-driven configuration and allows button-by-button programming for the entire system.

- Restaurants
- Retail stores
- Banquet rooms
- Lobbies
- Parking garages
- Building exteriors

LCP128

INTERNATIONAL MODELS AVAILABLE

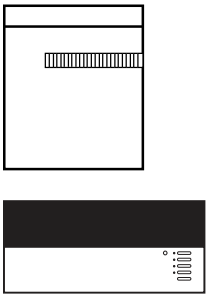


LCP128 is an easily configured lighting control system that offers end-user control of all the dimmed and switched lighting in the space. The LCP128 system maximizes the aesthetics of the space allowing selection of lighting scenes manually from intuitive wallstations or automatically via time clock scheduling.

- Restaurants
- Retail stores
- Banquet rooms
- Lobbies
- Parking garages
- Building exteriors

GRAFIK Eye 4000

INTERNATIONAL MODELS AVAILABLE



GRAFIK Eye 4000 is a flexible lighting control solution that adapts to the needs of the space. GRAFIK Eye 4000 provides dimming and switching control and offers a number of premium features such as integration with shading solutions, sequencing and partitioning.

- Ballrooms
- Auditoriums
- Houses of worship
- Museums
- Restaurants
- Retail spaces

Systems available for whole home, building, or campus

Quantum®

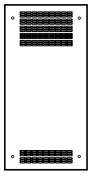
- Dimming, switching and daylight control
- Interoperability with other building systems
- Load shed and Smart Grid interactivity

HomeWorks® QS

- Dimming, switching and daylight control
- Interoperability with other home automation controls or systems
- Load shed and Smart Grid interactivity

Whole building/campus solutions

INTERNATIONAL MODELS AVAILABLE

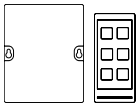


Quantum
Quantum total light management maximizes the efficient use of light to improve comfort and productivity, simplify operations, and save energy. The Quantum system dims or switches all electric lighting, and simultaneously controls daylight using automated shades. In addition, Quantum easily integrates with building management systems through a simple point of contact.

- Office buildings
- Hotels
- Health care facilities
- Convention centers
- Stadiums
- Colleges/ Universities
- Corporate headquarters

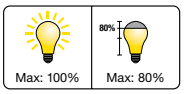
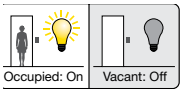
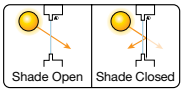
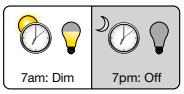
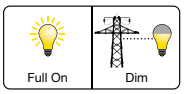
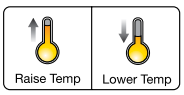
Whole home solutions

INTERNATIONAL MODELS AVAILABLE

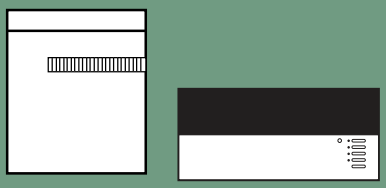
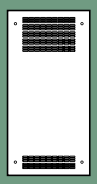
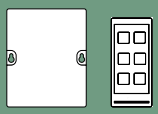


HomeWorks QS
HomeWorks QS offers total home control by incorporating lights, shades, HVAC, sensors and appliances for increased energy-savings.

- Medium and large residences

		Softswitch128® (XPS) (pg. 12)	**LCP128™** (pg. 26)
Voltage availability[1]			
100V			
110V-127V		●	●
127V (NOM)		●	●
120V		●	●
220V-240V		●	●
230V (CE)		●	●
277V		●	●
347V		●	
Energy-saving strategies			
	High-end trim		●
	Personal dimming control		● [2]
	Occupancy/ vacancy sensing	●	●
	Daylight harvesting	● [3]	● [3]
	Scheduling	●	●
	Temperature control		
	Controllable window shades		
	Demand response		

[1] For voltage requirements by country refer to the chart on pg. 692.
[2] Personal control via infrared (IR) receiver with IR remote control
[3] Daylight harvesting via switching only
[4] XP switching panel available for 347V

 **GRAFIK Eye® 4000** (pg. 44)	 **Quantum®** (pg. 72)	 **HomeWorks® QS** (pg. 108)
●		
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●[4]	●[4]	
●	●	●
●[2]	●	●
●	●	●
●	●	
●	●	●
●	●	●
●	●	●
	●	●

Designed for projects with up to 512 relays, the Softswitch128 (XPS) system provides switching control of all lighting circuits—interior and exterior. XPS systems utilize switching panels with built-in astronomical time-clock, integrated visual display lighting programmers, and Lutron Softswitch 1,000,000 cycle relay technology to provide code-compliant switching functions. The system enables efficient and cost-effective installation and simple commissioning.

Feature highlights

- Panel-based switching
- Scheduling
- Occupancy/vacancy sensing
- Daylight harvesting

Typical applications

- Retail stores
- Lobbies
- Parking garages
- Building exteriors/landscape

Typical components

LOS-C Series ceiling-mount sensor

seeTouch® keypad

Daylight sensor
package

Softswitch128 (XPS)
switching panel

Contact closure
input/output interfaces

Typical system components and communication

Primary controls

Softswitch128 (XPS) switching panel

Sensors

LOS C-Series ceiling-mount occupancy sensor

LOS W-Series wall-mount occupancy sensor

Daylight sensor package

Third-party devices

HVAC equipment (by others)

Security system (by others)

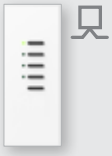
Touchscreen (by others)

Sub-controls

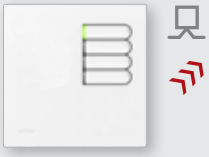
seeTouch® keypad

Large-button wallstation

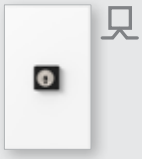
Slim-button wallstation



Architrave™ wallstation



European-style wallstation



Keyswitch

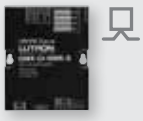
Architectural wallstation

2-button wallstation

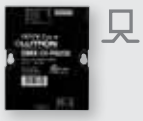
Ceiling-mount infrared (IR) receiver

IR remote control

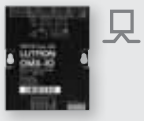
Control interfaces



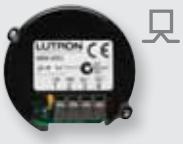
Ethernet interface



RS232 interface



Contact closure input/output interface



Wallbox contact closure input interface

Emergency lighting interface

Contact closure output interface

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

Wired communication

Infrared (IR) communication

Understanding how to build a Softswitch128 (XPS) system

1. **Power panel selection**
   Select power panel(s) based on number of relays being switched

2. **Design choices**
   Choose wallstations and sensors based on the functionality required and the aesthetic desired to compliment the space.

3. **Integration/connecting to third-party devices**
   Utilize control interfaces to connect to third-party devices and systems, such as touchscreens, A/V equipment and security systems.

4. **Shades**
   Connect to third-party motorized shades via contact closure output.

5. **Software and programming**
   Softswitch128 (XPS) can be programmed through button-presses via the Liquid Crystal Display (LCD) controller located within the power panel.

Power panels

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

Softswitch128 switching panel

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

- Switching panel for up to 48 switching circuits with integrated astronomical time clock and LCD controller for programming
- LCD controller provides easy-to-use, menu-based control and configuration of the entire system
- Feed and load wiring only, no other wiring or assembly required

Mini:
W: 15.88 in (403 mm)
H: 24.50 in (622 mm)
D: 4.21 in (105 mm)

Standard:
W: 15.88 in (403 mm)
H: 59.5 in (1511 mm)
D: 4.21 in (107 mm)

Large:
W: 23.50 in (597 mm)
H: 63.50 in (1613 mm)
D: 6.30 in (160 mm)

Extra large:
W: 23.50 in (597 mm)
H: 82.50 in (2096 mm)
D: 6.30 in (160 mm)

Softswitch128 power panel summary

	Softswitch128 switching panel				
	Load voltages				
	120V, 110-127V, 127V (NOM)	277V	347V	220-240V	230V (CE)
Dimmed loads					
Incandescent/halogen					
Magnetic low-voltage					
Electronic low-voltage					
Fluorescent and LED (3-wire)					
Fluorescent and LED (EcoSystem®)					
Tu-Wire® Fluorescent					
Fluorescent and LED (0-10V)					
Fluorescent and LED (PWM)					
Fluorescent and LED (DALI)					
LED (2-wire forward phase)					
CFL/LED (screw-base)					
Neon/cold cathode					
Switched loads					
Non-dim lighting (loads above)	●	●	●	●	●
HID	●	●	●	●	●
Motor loads	●	●	●	●	●
Fan loads	●	●	●	●	●
Panel/module voltage	120/277V	120/277V	347V	220-240V	230V (CE)
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Maximum load per circuit	16A; 0.5HP	16A; 1.5HP	16A	16A; 0.5HP	16A 0.5HP

Power interfaces
- Compatible load control (no interfaces)

Sub-controls

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

Ceiling-mount infrared (IR) receiver

POWERED BY
OMX link

- Provides control of lighting via IR handheld remote controls by providing access point
- Allows scene selection and all off functionality
- Compatible with all Lutron® IR remote controls
- Available in white
- Diameter: 3.50 in (89 mm)
  Depth: 3.00 in (76 mm)
  Profile: 0.75 in (20 mm)

Traditional opening wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Simple wallstation with one tap button with or without status LED
- Provides toggle functionality for any zone(s) in the system
- Available in White
- W: 2.86 in (73 mm)
  H: 4.60 in (117 mm)
  D: 1.31 in (33 mm)
  Profile: 0.23 in (6 mm)

Infrared (IR) remote control

POWERED BY
Battery

- Models available with four or eight scene control
- Off button turns all lights off
- Available in White and Black
- W: 1.50 in (38 mm)
  H: 5.69 in (145 mm)
  D: 0.88 in (22 mm)

2-button wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Simple, intuitive wallstation ideal for use in entryways
- Status LEDs indicate which wallstation button has been activated
- Functionality includes scene selection and all off
- Available in 17 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Architectural wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Models available with four programmable buttons that can be used for scene selection, zone toggle or to enable/disable time clock
- Select models available with all off and infrared (IR) receiver
- Available in 17 finishes, insert or non-insert style
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Large-button wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Models available to select five or eight scenes plus all off functionality
- Features large easy-to-use buttons
- Available in 17 finishes
- 5-scene with off:
  W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

  8-scene with off (2-gang):
  W: 4.56 in (116 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

Slim-button wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Models available with 5, 10, or 15 slim buttons to select scenes
- Large buttons provide on/off functionality
- Available in 17 finishes
- 5-button and 10-button:
  W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

  15-button (2-gang)
  W: 4.56 in (116 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

European-style wallstation

POWERED BY
OMX link

BACKBOX
Round or square

- Models available with 2, 4, or 8 programmable buttons plus all off functionality
- Select models offer IR receiver allowing convenient control of lights via IR remote control
- Features large, rounded buttons
- Available in 17 finishes
- Mounts in UK/German single-gang backbox
- W: 3.38 in (86 mm)
  H: 3.38 in (86 mm)
  D: 1.00 in (25 mm)
  Profile: 0.25 in (6 mm)

Sub-controls (continued)

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

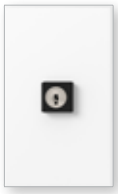
seeTouch® keypad

POWERED BY
OMX link

BACKBOX
U.S. style

- Models available with 1-7 programmable buttons that can be used for scene selection, zone toggle or to enable/disable time clock
- Select models available with all off and infrared receiver
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- Available in 40 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Keyswitch



POWERED BY
OMX link

BACKBOX
U.S. style

- Provides scene selection or enable/disable time clock functionality
- Limits access to lighting control, ideal for public spaces
- Available in 17 finishes, insert or non-insert style
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Architrave wallstation

POWERED BY
OMX link

BACKBOX
Lutron supplied

- Models available with two or four programmable buttons that can be used for scene selection, zone toggle or to enable/disable time clock
- Four button models are available with slim or large buttons
- Two button model available with slim buttons only
- Available in 16 finishes
- Slim-button:
  W: 1.75 in (44 mm)
  H: 4.50 in (114 mm)
  D: 1.75 in (44 mm)
  Profile: 0.13 in (3 mm)

  Large-button:
  W: 1.50 in (38 mm)
  H: 5.16 in (131 in)
  D: 1.99 in (51 mm)
  Profile: 0.13 in (3 mm)

Sensors

Wired sensors add convenience by detecting occupancy/vacancy and daylight adjusting accordingly.

Wired LOS-C and LOS-W series occupancy sensors

POWERED BY
20-24 V DC from power pack

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Sensor technology options include passive infrared, ultrasonic and dual technology
- Wall-mount and ceiling-mount models available
- Available in White
- Ceiling-mount:
  Diameter: 4.50 in (114 mm)
  Depth: 1.40 in (38 mm)

  Wall-mount:
  W: 2.70 in (69 mm)
  H: 5.25 in (133 mm)
  D: 3.90 in (99 mm)

Wired high-bay occupancy sensors

POWERED BY
20-24 V DC from power pack

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Passive infrared sensor designed for use in high-bay applications
- Maximum mounting height 45 ft (14 m)
- Surface-mount and end-mount models available
- Available in White
- 180° and 360° surface-mount:
  Diameter: 4 in (102 mm)
  Depth: 1.5 in (38 mm)

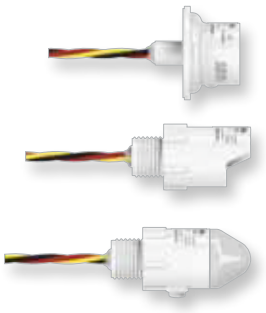
  180° end-mount:
  W: 4.00 in (102 mm)
  H: 4.50 in (114 mm)
  D: 1.50 in (38 mm)

  360° end-mount:
  W: 3.60 in (91 mm)
  H: 4.40 in (112 mm)
  D: 2.00 in (51 mm)

Sensors (continued)

Wired sensors add convenience by detecting occupancy/vacancy and daylight adjusting accordingly.

Daylight sensor package



- Allow system to switch lights on/off in response to ambient daylight level setting
- Package includes a wired power pack, daylight sensor, and daylight controller
- Package available in 120 or 277 V; sensor options: indoor, outdoor, atrium/skylight

POWERED BY
20-24 V DC from power pack

- Indoor sensor:
  W: 1.28 in (33 mm)
  H: 1.15 in (29 mm)

  Outdoor sensor:
  W: 1.85 in (47 mm)
  H: 1.35 in (34 mm)

  Atrium/Skylight sensor:
  W: 2.25 in (57 mm)
  H: 1.28 in (33 mm)

Control interfaces

Use control interfaces to combine Lutron® lighting controls with other third-party devices and systems for advanced integration

Contact closure output interface

POWERED BY

OMX link or external transformer (12-24 V DC)

- Provides eight dry contact closure outputs
- Compatible with motorized projection screens, window treatments and A/V equipment that have contact closure output
- Offers both normally open and normally closed contacts
- W: 5.75 in (146 mm)
  H: 10.75 in (273 mm)
  D: 2.00 in (50 mm)

Contact closure input/output interface

POWERED BY

OMX link or external transformer (12-24 V DC)

- Provides five inputs and five dry contact closure outputs
- Compatible with motion/ occupancy sensors, movable walls, security systems and other products that have contact closure input/output
- Outputs provide both normally open and normally closed contacts
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

Wallbox contact closure input interface

POWERED BY

OMX link or external transformer (12-24 V DC)

- Provides seven contact closure inputs
- Interfaces with third-party low-voltage switches to provide an alternative keypad aesthetic
- Mounts behind third-party low-voltage switch in backbox
- Diameter: 2.31 in (59 mm)
  Depth: 0.81 in (20 mm)

RS232 interface

POWERED BY

OMX link or external transformer (12-24 V DC)

- Allows integration with touchscreen, PC, A/V system or other digital equipment that supports RS232 communication
- Control and monitor switching panel
- Monitor lighting scenes
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

Control interfaces (continued)

Use control interfaces to combine Lutron lighting controls with other third-party devices and systems for advanced integration

Ethernet interface

POWERED BY
OMX link

- Allows integration with touchscreen, PC, A/V system or other digital equipment that supports TC/ICP communication over Ethernet
- Control and monitor switching panel
- Monitor lighting scenes
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

Data link repeater

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

- Allows power panel links to be extended beyond their maximum distances
- Extends the maximum distance and increases the power of the OMX link
- W: 5.00 in (127 mm)
  H: 7.75 in (197 mm)
  D: 2.50 in (64 mm)

Emergency lighting interface

POWERED BY
OMX link or 20-24V DC from power pack

- Turns all or designated lighting loads to “full on” output or other programmed emergency light level
- Senses the normal line-voltage on all 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)

Software and programming

The Softswitch128 (XPS) system is programmed at the Liquid Crystal Display (LCD) controller located within the power panel.

Button-press programming via Softswitch128 LCD controller

- Programming performed directly at the Softswitch128 panel for easy access
- Program wallstations to recall light patterns, toggle any switch leg(s), activate delay-to-off and activate contact closures on a button by button basis
- Set-up up to 500 user-defined time clock events within seven daily schedules and 40 holiday schedules

LCP128 control system allows control of up to 128 lighting circuits—dimmed and switched—into one simple system. LCP128 systems use prewired panels with integrated visual display programmers and built-in astronomical time clock, allowing for easy and cost-effective installation and commissioning.

Feature highlights

- Panel-based dimming and switching
- Preset scene control
- Scheduling
- Audio visual integration

Typical applications

- Restaurant
- Retail stores
- Banquet room
- Lobbies

Typical components

Ceiling-mount infrared receiver

seeTouch keypad

Wired LOS-W
wall-mount
occupancy sensor

Hi-lume 3D
ballast

LCP128
dimming panel

Infrared
remote control

3-wire fluorescent
power module

RS232
interface

Typical system components and communication

Primary controls

LCP128 dimming panel

LCP128 spec grade dimming panel

Sensors

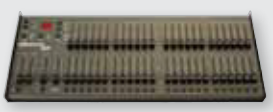
LOS C-Series ceiling-mount occupancy sensor

LOS W-Series wall-mount occupancy sensor

Wired high-bay occupancy sensor

Third-party devices

A/V equipment (by others)



Multi-channel theatrical console

Sub-controls

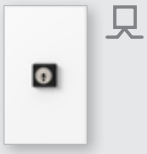
seeTouch® keypad

Large-button wallstation

Slim-button wallstation

Architrave™ wallstation

European-style wallstation



Keyswitch

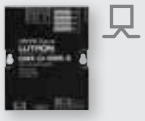
Architectural wallstation

Ceiling mount infrared (IR) receiver

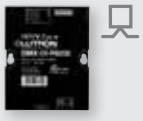
IR remote control

Traditional opening wallstation

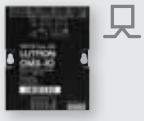
Control interfaces



Ethernet interface



RS232 interface



Contact closure input/output interface

Emergency lighting interface

Data link repeater

DMX512 input interface

Wallbox contact closure input interface

Contact closure output interface

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

Wired communication

Infrared (IR) communication

Understanding how to build an LCP128 system

1. **Power panel selection**
   Select power panel(s) based on load type and size and the method of control required.

2. **Design choices**
   Choose wallstations and sensors based on functionality required and the aesthetic desired to compliment the space.

3. **Integration/connecting to third-party devices**
   Utilize control interfaces to connect to third-party devices and systems, such as security systems, A/V equipment and stageboards.

4. **Shades**
   Connect to third-party motorized shades via contact closure output.

5. **Software and programming**
   LCP128 can be programmed through button-presses.

Power panels

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

LCP128 dimming panel

- Combination dimming and switching panel for up to 36 circuits with integrated astronomical time clock and LCD controller for programming
- LCD controller provides easy-to-use menu-based control and configuration of the entire system
- Feed and load wiring only, no other wiring or assembly required

Mini:
W: 15.88 in (403 mm)
H: 24.50 in (622 mm)
D: 4.21 in (107 mm)

Standard:
W: 15.88 in (403 mm)
H: 59.50 in (1511 mm)
D: 4.21 in (107 mm)

POWERED BY
120 V
110-127 V
127 V NOM
220-40 V
230 V CE
277 V

LCP128 spec grade dimming panel

- Combination dimming and switching panel for up to 24 circuits with integrated astronomical time clock and LCD controller for programming
- LCD controller provides easy-to-use menu based control and configuration of the entire system
- Feed and load wires only, no other wiring or assembly required
- W: 28.00 in (711 mm)
  H: 37.00 in (940 mm)
  D: 12.00 in (304 mm)

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

LCP128 power panel summary

[1] DALI broadcast only

[2] Reverse phase only. Forward phase loads will require a power booster for proper dimming

	LCP128 dimming panel				
	Dimming modules			Electronic low-voltage dimming module	
Load voltages	120V, 110-127V, 127V (NOM)	230V (CE)	220-240V	230V (CE)	220-240V
Dimmed loads					
Incandescent/halogen	●	●	●	●	●
Magnetic low-voltage	●	●	●	PB-CE	PB-AU
Electronic low-voltage	PA	ELVI-CE	ELVI-AU	●	●
Fluorescent and LED (3-wire)	3F		FDBI-AU		FDBI-AU
Fluorescent and LED (EcoSystem®)					
Tu-Wire® Fluorescent	●				
Fluorescent and LED (0-10V)	TVM, TVI	TVM, TVI	TVM, TVI	TVM, TVI	TVM, TVI
Fluorescent and LED (PWM)	TVM, PWM	TVM	TVM, PWM	TVM	TVM, PWM
Fluorescent and LED (DALI)	TVM[1]	TVM[1]	TVM[1]	TVM[1]	TVM[1]
LED (2-wire forward phase)	●				
CFL/LED (screw-base)	PA	PB-CE, ELVI-CE	PB-AU, ELVI-AU	●[2]	●[2]
Neon/cold cathode	●	●	●	PB-CE	PB-AU
Switched loads					
Non-dim lighting (loads above)	●	●	●	TVI	TVI, PWM
HID	SW, TVI, PWM	TVI	TVI, PWM	TVI	TVI, PWM
Motor loads	SW, TVI, PWM	TVI	TVI, PWM	TVI	TVI, PWM
Fan loads (switched or speed control)	SW, TVI, PWM	TVI	TVI, PWM	TVI	TVI, PWM
Panel/module voltage	120V	230V (CE)	220-240V	220-240V (CE)	220-240V (CE)
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Minimum load	25W	40W	40W	10W	10W
Maximum load per circuit	16A	10A	16A	10A	10A
Maximum load per module	16A	13A	16A	16A	16A

Power interfaces
- ● Compatible load control (no interfaces)

3F: 3-wire fluorescent power module pg. 516
ELVI-AU: Electronic low-voltage interface (AU) pg. 524
ELVI-CE: Electronic low-voltage interface (CE) pg. 524
FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PA: Phase adaptive power module pg. 514
PB-AU: Power booster pg. 522
PB-CE: Power booster (CE) pg. 522
PWM: Pulse width modulation interface pg. 530
SW: Switching power module pg. 520
TVI: 0-10V interface pg. 528
TVM: Ten-volt module in panel

LCP128 power panel summary

	LCP128 dimming panel		
	Adaptive dimming modules		
	Load voltages		
	120V, 110-127V, 127V (NOM)	230V (CE)	220-240V
Dimmed loads			
Incandescent/halogen	●	●	●
Magnetic low-voltage	●	●	●
Electronic low-voltage	●	●	●
Fluorescent and LED (3-wire)	3F		FDBI-AU
Fluorescent and LED (EcoSystem®)			
Tu-Wire® Fluorescent	●		
Fluorescent and LED (0-10V)	TVM, TVI	TVM, TVI	TVM, TVI
Fluorescent and LED (PWM)	TVM, PWM	TVM	TVM, PWM
Fluorescent and LED (DALI)	TVM [1]	TVM [1]	TVM [1]
LED (2-wire forward phase)	●		
CFL/LED (screw-base)	● [2]	● [2]	● [2]
Neon/cold cathode	●	●	●
Switched loads			
Non-dim lighting (loads above)	SW, TVI, PWM	TVI	TVI, PWM
HID	SW, TVI, PWM	TVI	TVI, PWM
Motor loads	SW, TVI, PWM	TVI	TVI, PWM
Fan loads (switched or speed control)	SW, TVI, PWM	TVI	TVI, PWM
Panel/module voltage	120V	220-240V (CE)	220-240V (CE)
Frequency	50/60Hz	50/60Hz	50/60Hz
Minimum load	10W	10W	10W
Maximum load per circuit	10A	8A	8A
Maximum load per module	16A	13A	16A

[1] DALI broadcast only

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

Power interfaces

● Compatible load control (no interfaces)

FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526

PWM: Pulse width modulation interface pg. 530

3F: 3-wire fluorescent power module pg. 516

PA: Phase adaptive power module pg. 514

SW: Switching power module pg. 520

LCP128 dimming panel				
Fan speed module	**Motor module**	**Switching module**	**LCP128 spec grade dimming panel**	
Load voltages				
120V, 110-127V, 127V (NOM)	120V, 110-127V, 127V (NOM)	120V, 110-127V, 127V (NOM), 220-240V, 230V (CE), 347V	120V, 110-127V, 127V (NOM)	277V
Dimmed loads				
			●	●
			●	●
			●[3]	●[3]
			●	●
			●	
			TVM, TVI	TVM, TVI
			TVM, PWM	TVM, PWM
			TVM[1]	TVM[1]
			●	
			●[3]	●[3]
			●	
Switched loads				
	●	●	●	●
		●	●	●
	● (AC loads only)	●	SW, TVI, PWM	SW, TVI, PWM
●		●	SW, TVI, PWM	SW, TVI, PWM
120V	120V	100-277V (CE)	120V	277V
50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
0.25A	—	—	10W	10W
2A	5A; 0.5HP	16A; 0.5HP (120V), 1.5HP (277V), 0.5HP (220-240V)	16A	16A
16A	16A	(see per circuit rating)	—	—

[3] Forward phase only. Not all ELV transformers and dimmable CFL/LED dim properly with forward phase control; may require phase-adaptive power module for proper dimming; for reverse phase, a phase-adaptive power module will be required

ELVI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528

ELVI-CE: Electronic low-voltage interface (CE) pg. 524
PB-CE: Power booster (CE) pg. 522
TVM: Ten-volt module in panel

Sub-controls

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

Ceiling-mount infrared (IR) receiver

POWERED BY
OMX link

- Provides control of lighting via IR handheld remote controls by providing access point
- Allows scene selection, raise/lower scenes and all off functionality
- Compatible with all Lutron IR remote controls
- Available in White
- Diameter: 3.50 in (89 mm)
  Depth: 3.00 in (76 mm)
  Profile: 0.75 in (20 mm)

Traditional opening wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Simple wallstation with one tap button with or without status LED
- Provides toggle functionality for any zone(s) in the system
- Available in White
- W: 2.86 in (73 mm)
  H: 4.60 in (117 mm)
  D: 1.31 in (33 mm)
  Profile: 0.23 in (6 mm)

IR remote control

POWERED BY
Battery

- Models available with four or eight 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)

2-button wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Simple, intuitive wallstation ideal for use in entryways
- Status LEDs indicate which wallstation button has been activated
- Functionality includes scene selection, raise/lower, and all off
- Available in 17 finishes
- Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Architectural wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Models available with four programmable buttons that can be used for scene selection, scene or zone toggle or to enable/disable time clock
- Select models available with all off and/or raise/lower buttons and infrared (IR) receiver
- Available in 17 finishes, insert or non-insert style
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Large-button wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Models available to select 3, 5, 6 or eight scenes plus raise/lower and all off functionality
- Features large easy-to-use buttons
- Available in 17 finishes
- 5-scene with off and 3-scene with raise/lower and off:
  W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

  8-scene with off and 5-scene with raise/lower and off:
  W: 4.56 in (116 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

Slim-button wallstation

POWERED BY
OMX link

BACKBOX
U.S. style

- Models available with 5, 10, or 15 slim buttons to select scenes
- Large buttons provide either on/off or raise/lower functionality
- Available in 17 finishes
- 5-button and 10-button:
  W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

  15-button:
  W: 4.56 in (116 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

European-style wallstation

POWERED BY
OMX link

BACKBOX
Round or square

- Models available with 2, 4, or 8 programmable buttons plus raise/lower and all off functionality
- Select models offer IR receiver allowing convenient control of lights via IR remote control
- Features large, rounded buttons
- Available in 17 finishes
- Mounts in UK/German single-gang backbox
- W: 3.38 in (86 mm)
  H: 3.38 in (86 mm)
  D: 1.00 in (25 mm)
  Profile: 0.25 in (6 mm)

Sub-controls (continued)

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

Architrave wallstation

- Models available with two or four programmable buttons that can be used for scene selection, zone or scene toggle or to enable/disable time clock
- Four button models are available with slim or large buttons
- Two button available with slim buttons only
- Available in 16 finishes
- Slim-button:
  Width: 1.75 in (44 mm)
  Height: 4.50 in (114 mm)
  Depth: 1.75 in (44 mm)
  Profile: 0.13 in (3 mm)

  Large-button:
  Width: 1.50 in (38 mm)
  Height: 5.16 in (131 mm)
  Depth: 1.99 in (51 mm)
  Profile: 0.13 in (3 mm)

POWERED BY
OMX link

BACKBOX
Lutron supplied

seeTouch® keypad

- Models available with 1-7 programmable buttons that can be used for scene selection, zone toggle or to enable/disable time clock
- Select models available with all off and/or raise/lower buttons and infrared receiver
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- Available in 40 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

POWERED BY
OMX link

BACKBOX
U.S. style

Multi-channel theatrical consoles

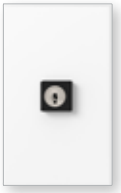
- Fully featured and simple to operate, the consoles were designed and built for professional use
- Available with 12 or 24 channels
- Simultaneous DMX, microplex, and analog output
- 12-channel:
  W: 15.41 in (391 mm)
  H: 10.13 in (257 mm)
  D: 2.87 in (73 mm)

  24-channel:
  W: 25.38 in (645 mm)
  H: 10.13 in (257 mm)
  D: 2.87 in (73 mm)

POWERED BY
External transformer

BACKBOX
U.S. style

Keyswitch



- Provides scene selection or enable/disable time clock functionality
- Limits access to lighting control, ideal for public spaces
- Available in 17 finishes, insert or non-insert style
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

POWERED BY
OMX link

Ballasts and Drivers

Ballasts and drivers are required to control fluorescent and/or LED lighting via the LCP128 or LCP128 spec grade dimming panel.

EcoSystem ballast

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

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

Hi-lume 3D ballast

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

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

EcoSystem ballasts for compact fluorescent lamps (CFL)

- Continuous flicker free dimming from 100% to 5% for T4 compact fluorescent lamps
- Available with 3-wire control

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

Hi-lume ballast

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

POWERED BY
120V
110-127V
277V

Ballasts and Drivers (continued)

Ballasts and drivers are required to control fluorescent and/or LED lighting via the LCP128 or LCP128 spec grade dimming panel.

Tu-wire® ballast

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

POWERED BY
120V
110-127V

Hi-lume® A-Series LED driver

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

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

Sensors

Wired sensors add convenience by detecting occupancy/vacancy and daylight adjusting accordingly.

Wired LOS-C and LOS-W series occupancy sensors

POWERED BY
20-24 V DC from power pack

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Sensor technology options include passive infrared, ultrasonic and dual technology
- Wall-mount and ceiling-mount models available
- Available in White
- Ceiling-mount:
  Diameter: 4.50 in (114 mm)
  Depth: 1.40 in (38 mm)

  Wall-mount:
  W: 2.70 in (69 mm)
  H: 5.25 in (133 mm)
  D: 3.90 in (99 mm)

Wired high-bay occupancy sensors

POWERED BY
20-24 V DC from power pack

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Passive infrared sensor designed for use in high-bay applications
- Maximum mounting height 45 ft (14 m)
- Surface-mount and end-mount models available
- Available in White
- 180° and 360° surface-mount:
  Diameter: 4.00 in (102 mm)
  Depth: 1.50 in (38 mm)

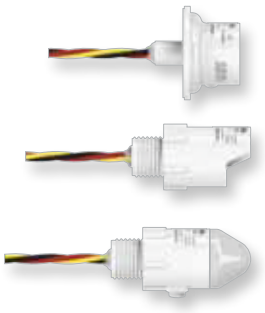
  180° end-mount:
  W: 4.00 in (102 mm)
  H: 4.50 in (114 mm)
  D: 1.50 in (38 mm)

  360° end-mount:
  W: 3.60 in (91 mm)
  H: 4.40 in (112 mm)
  D: 2.00 in (51 mm)

Sensors (continued)

Wired sensors add convenience by detecting occupancy/vacancy and daylight adjusting accordingly.

Daylight sensor package



- Allow system to switch lights on/off in response to ambient daylight level setting
- Package includes a wired power pack, daylight sensor, and daylight controller
- Package available in 120 or 277 V; sensor options: indoor, outdoor, atrium/skylight

POWERED BY
20-24 V DC from power pack

- Indoor sensor:
  W: 1.28 in (33 mm)
  H: 1.15 in (29 mm)

  Outdoor sensor:
  W: 1.85 in (47 mm)
  H: 1.35 in (34 mm)

  Atrium/Skylight sensor:
  W: 2.25 in (57 mm)
  H: 1.28 in (33 mm)

Control interfaces

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

Contact closure output interface

POWERED BY
OMX link or external transformer (12-24 V DC)

- Provides eight dry contact closure outputs
- Compatible with motorized projection screens, window treatments and A/V equipment that have contact closure output
- Offers both normally open and normally closed contacts
- W: 5.75 in (146 mm)
  H: 10.75 in (273 mm)
  D: 2.00 in (50 mm)

Contact closure input/output interface

POWERED BY
OMX link or external transformer (12-24 V DC)

- Provides five inputs and five dry contact closure outputs
- Compatible with motion/occupancy sensors, movable walls, security systems and other products that have contact closure input/output
- Outputs provide both normally open and normally closed contacts
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

Wallbox contact closure input interface

POWERED BY
OMX link or external transformer (12-24 V DC)

- Provides seven contact closure inputs
- Interfaces with third-party low-voltage switches to provide an alternative keypad aesthetic
- Mounts behind third-party low-voltage switch in backbox
- Diameter: 2.31 in (59 mm)
  Depth: 0.81 in (20 mm)

RS232 interface

POWERED BY
OMX link or external transformer (12-24 V DC)

- Allows integration with touchscreen, PC, A/V system or other digital equipment that supports RS232 communication
- Control and monitor switching panel
- Monitor lighting scenes
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

Control interfaces (continued)

Use control interfaces to combine Lutron® lighting controls with other third-party devices and systems for advanced integration

Ethernet interface

POWERED BY
OMX link or external transformer (12-24 V DC)

- Allows integration with touchscreen, PC, A/V system or other digital equipment that supports TC/ICP communication over Ethernet
- Control and monitor switching panel
- Monitor lighting scenes
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

Emergency lighting interface

POWERED BY
OMX link or 20-24 V DC from power pack

- Turns all or designated lighting loads to “full on” output or other programmed emergency light level
- 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)

DMX512 input interface

POWERED BY
OMX link or external transformer (12-24 V DC)

- Provides an interface between DMX512/1190 compatible stage lighting console and the system
- Supports up to 32 consecutive channel levels from the entire range of 512 channels
- Control can be shared between systems
- W: 5.00 in (127 mm)
  H: 7.75 in (197 mm)
  D: 2.50 in (84 mm)

Data link repeater

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

- Allows power panel links to be extended beyond their maximum distances
- Extends the maximum distance and increases the power of the OMX link
- W: 5.00 in (127 mm)
  H: 7.75 in (197 mm)
  D: 2.50 in (64 mm)

Software and programming

The LCP128 system is programmed at the Liquid Crystal Display (LCD) controller located within the power panel.

Button-press programming via Softswitch128 LCD controller

- Programming performed directly at the LCP128 panel for easy access
- Program wallstations to recall scenes, raise/lower circuits, activate delay-to-off and activate contact closures on a button-by-button basis
- Set-up up to 500 user-defined time clock events within seven daily schedules and 40 holiday schedules

GRAFIK Eye 4000 lighting control system is designed to provide dimming, switching, and daylight control. The system consists of pre-wired panels, GRAFIK Eye control units, wallstations, and control interfaces. The system is ideal for multi-use areas and partitionable spaces.

Feature highlights

- Preset scene control
- Daylight harvesting
- Partitioning
- Shade integration

Typical applications

- Ballrooms
- Auditoriums
- Houses of worship
- Museums

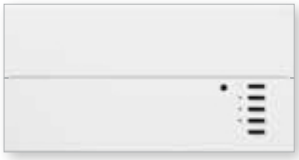
Typical components

Wired photosensor

GRAFIK Eye 4500 main unit

Sivoia® QED shade

GP dimming panel



Daylight controller

Large-button wallstation

Time clock/programming interface

Typical system components and communication

Primary controls

GRAFIK Eye 4100/4500 control unit

GRAFIK Eye 4000 Series slider control unit

Shading systems

Sivoia® QED controller

Sivoia QED panel power supply

Sivoia QED roller shade

Power panels

GP dimming panel

LP dimming panel

XP switching panel

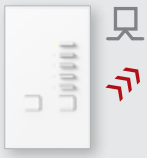
DCI dimming panel

Sub-controls

seeTouch® keypad

Large-button wallstation

Architrave™ wallstation

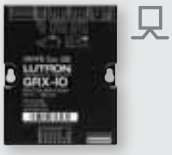


Slim-button wallstation

European-style wallstation

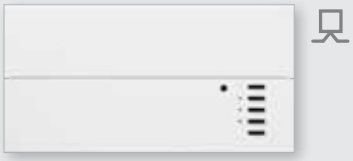
Architectural wallstation

Control interfaces

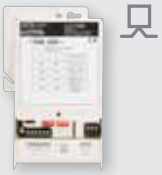


Contact closure input/output interface

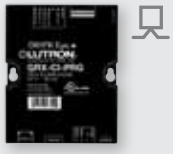
RS232 interface



Daylight controller



DMX512 output interface



Time clock/ programming interface

Sensors

LOS C-Series occupancy sensors

Wired photosensor

Infrared partitioning sensor

Third-party devices

Multi-channel theatrical console

PC desktop

Wired communication

Infrared (IR) communication

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

Understanding how to build a GRAFIK Eye 4000 system

1. **Power panel selection**
   Select power panels based on load type and size, and the method of control required.

2. **Design choices**
   Choose control units, wallstations, and sensors based on functionality required and the aesthetic desired to compliment the space

3. **Integration/connecting to third-party devices**
   Utilize control interfaces to connect to third-party devices and systems, such as touchscreens, A/V equipment and theatrical equipment.

4. **Shades**
   Wired Sivoia® QED shading solutions offer convenient control of daylight at the touch of a button.

5. **Software and programming**
   GRAFIK Eye 4000 can be programmed through PC-based software or button-presses.

Power panels

The power panels provide remote dimming and switching capability for all common light sources, including incandescent, fluorescent, LED, CFL, halogen, and neon/cold cathode.

GP dimming panel

POWERED BY
100V
120V
110-127V
127V NOM
220-240V
230V CE
277V

- Panel is typically used for high-performance architectural dimming
- Provides power and dimming for up to 144 circuits
- Feed-through or branch circuit breakers panels are available
- Mini:
  W: 11.00 in (279 mm)
  H: 21.13 in (537 mm)
  D: 6.25 in (160 mm)

  Standard:
  W: 28.00 in (711 mm)
  H: 37.00 in (940 mm)
  D: 12.00 in (304 mm)

  Large (GP36):
  W: 26.13 in (653 mm)
  H: 87.00 in (2175 mm)
  D: 14.13 in (360 mm)

  Large:
  W: 52.31 in (1308 mm)
  H: 87.00 in (2175 mm)
  D: 14.13 in (360 mm)

  Extra Large:
  W: 52.31 in (1308 mm)
  H: 87.00 in (2175 mm)
  D: 28.25 in (720 mm)

XP switching panel

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

- Million-cycle switching panel employs Lutron patented Softswitch technology
- Provides power and switching for up to 48 switching legs
- Feed-through or branch circuit breaker panels are available
- Mini:
  W: 15.88 in (403 mm)
  H: 24.50 in (622 mm)
  D: 4.21 in (107 mm)

  Standard:
  W: 15.88 in (403 mm)
  H: 59.50 in (1511 mm)
  D: 4.21 in (107 mm)

  Large:
  W: 23.50 in (597 mm)
  H: 63.50 in (1613 mm)
  D: 6.30 in (160 mm)

  Extra Large:
  W: 23.50 in (597 mm)
  H: 82.50 in (2096 mm)
  D: 6.30 in (160 mm)

LP dimming panel

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

- Panel is typically used for commercial dimming projects with numerous small loads
- Provides power and dimming for up to 32 dimming legs (up to eight modules, four outputs per module)
- Panels include branch circuit breakers
- Mini:
  W: 15.88 in (403 mm)
  H: 24.50 in (622 mm)
  D: 4.21 in (107 mm)

  Standard:
  W: 15.88 in (403 mm)
  H: 59.50 in (1511 mm)
  D: 4.21 in (107 mm)

Power panels (continued)

The power panels provide remote dimming and switching capability for all common light sources, including incandescent, fluorescent, LED, CFL, halogen, and neon/cold cathode.

Custom combination panel (CCP)

POWERED BY

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

- Combination dimming and switching panel that is ideal for projects with numerous small loads
- Provides power and dimming for up to 32 dimming/switching legs
- Choose modules based on load type and control required
- Panels include branch circuit breakers
- W: 15.88 in (403 mm)
  H: 59.50 in (1511 mm)
  D: 4.21 in (107 mm)

DCI dimming panel

POWERED BY

120V
110-127V

- Dimming panel featuring direct current that is ideal for projects that require no radio frequency interference
- Provides power and dimming for up to three circuits
- Lamps are free of flicker and audible noise throughout the entire dimming range
- W: 28.00 in (711 mm)
  H: 37.00 in (940 mm)
  D: 12.00 in (304 mm)

GRAFIK Eye 4000 power panel summary

[1] Foward phase only. Not all ELV transformers and dimmable CFL/LEDs dim properly with forward phase control; may require phase-adaptive power module or electronic low voltage interface for proper dimming. For reverse phase, a phase adaptive power module or electronic low-voltage interface will be required.

[2] DALI broadcast only

	GP panel			
	Load voltage			
	120V, 110-127V, 127V (NOM)	277V	230V (CE)	220-240V
Dimmed loads				
Incandescent/halogen	●	●	●	●
Magnetic low-voltage	●	●	●	●
Electronic low-voltage	● [1]	● [1]	● [1]	● [1]
Fluorescent and LED (3-wire)	●	●		●
Fluorescent and LED (EcoSystem®)				
Tu-Wire® Fluorescent	●			
Fluorescent and LED (0-10V)	TVM, TVI	TVM, TVI	TVM, TVI	TVM, TVI
Fluorescent and LED (PWM)	TVM, PWM	TVM, PWM	TVM	TVM, PWM
Fluorescent and LED (DALI)	TVM [2]	TVM [2]	TVM [2]	TVM [2]
LED (2-wire forward phase)	●			
CFL/LED (screw-base)	● [1]	● [1]	● [1]	● [1]
Neon/cold cathode	●		●	●
Switched loads				
Non-dim lighting (loads above)	●	●	●	●
HID	●	●	●	●
Motor loads	SW, TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM
Fan loads	SW, TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM
Panel/module voltage	120V	277V	230V (CE)	220-240V
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Minimum load	10W	10W	10W	10W
Maximum load per circuit	16A	16A	16A	16A
Maximum load per module	—	—	—	—

Power interfaces
- ● Compatible load control (no interfaces)

TVI: 0-10V interface pg. 528
PWM: Pulse width modulation interface pg. 530
SW: Switching power module pg. 520
TVM: Ten-volt module in panel

GRAFIK Eye 4000 power panel summary (cont.)

	DCI dimming panel	**LP panel**		
		Load voltage		
	120V, 110-127V	120V, 110-127V, 127V (NOM)	230V (CE)	220-240V
Dimmed loads				
Incandescent/halogen	●	●	●	●
Magnetic low-voltage		●	●	●
Electronic low-voltage		PA	ELVI-CE	ELVI-AU
Fluorescent and LED (3-wire)		3F		FDBI-AU
Fluorescent and LED (EcoSystem®)				
Tu-Wire® Fluorescent		●		
Fluorescent and LED (0-10V)		TVM, TVI	TVM, TVI	TVM, TVI
Fluorescent and LED (PWM)		TVM, PWM	TVM	TVM, PWM
Fluorescent and LED (DALI)		TVM *	TVM *	TVM *
LED (2-wire forward phase)		●		
CFL/LED (screw-base)		PA	PB-CE, ELVI-CE	PB-AU, ELVI-AU
Neon/cold cathode		●	●	●
Switched loads				
Non-dim lighting (loads above)		●	●	●
HID		SW, TVI, PWM	TVI	TVI, PWM
Motor loads		SW, TVI, PWM	TVI	TVI, PWM
Fan loads		SW, TVI, PWM	TVI	TVI, PWM
Panel/module voltage	120V	120V	230V (CE)	220-240V
Frequency	60Hz	50/60Hz	50/60Hz	50/60Hz
Minimum load	10W	25W	40W	40W
Maximum load per circuit	10A; 1200W	16A	10A	16A
Maximum load per module	10A; 1200W	16A	13A	16A

* DALI broadcast only

Power interfaces

● Compatible load control (no interfaces)
FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PWM: Pulse width modulation interface pg. 530
3F: 3-wire fluorescent power module pg. 516
PA: Phase adaptive power module pg. 514
SW: Switching power module pg. 520

XP switching panel				
Load voltage				
120V, 110-127V, 127V (NOM)	277V	347V	230V (CE)	220-240V
Dimmed loads				
Switched loads				
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
120/277V	120/277V	347V	230V (CE)	220-240V
50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
—	—	—	—	—
16A; 0.5HP	16A; 1.5HP	16A	16A; 0.5HP	16A; 0.5HP
(see per circuit rating)	(see per circuit rating)	(see per circuit rating)	(see per circuit rating)	(see per circuit rating)

EVLI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528

ELVI-CE: Electronic low-voltage interface (CE) pg. 524
PB-CE: Power booster (CE) pg. 522
TVM: Ten-volt module in panel

GRAFIK Eye 4000 power panel summary (cont.)

1 DALI broadcast only
2 Reverse phase only. Forward phase loads will require power booster for proper dimming.
3 Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with this module.

	Custom Combination Panel				
	Dimming modules			Electronic low-voltage	
	Load voltage				
	120V, 110-127V	230V (CE)	220-240V	230V (CE)	220-240V
Dimmed loads					
Incandescent/halogen	●	●	●	●	●
Magnetic low-voltage	●	●	●	PB-CE	PB-AU
Electronic low-voltage	PA	ELVI-CE	ELVI-AU	●	●
Fluorescent and LED (3-wire)	3F		FDBI-AU		FDBI-AU
Fluorescent and LED (EcoSystem®)					
Tu-Wire® Fluorescent	●				
Fluorescent and LED (0-10V)	TVM, TVI	TVM, TVI	TVM, TVI	TVM, TVI	TVM, TVI
Fluorescent and LED (PWM)	TVM, PWM	TVM	TVM, PWM	TVM	TVM, PWM
Fluorescent and LED (DALI)	TVM [1]	TVM [1]	TVM [1]	TVM [1]	TVM [1]
LED (2-wire forward phase)	●				
CFL/LED (screw-base)	PA	PB-CE, ELVI-CE	PB-AU, ELVI-AU	● [2]	● [2]
Neon/cold cathode	●	●	●	PB-CE	PB-AU
Switched loads					
Non-dim lighting (loads above)	●	●	●	TVI	TVI, PWM
HID	SW, TVI, PWM	TVI	TVI, PWM	TVI	TVI, PWM
Motor loads	SW, TVI, PWM	TVI	TVI, PWM	TVI	TVI, PWM
Fan loads (switched or speed control)	SW, TVI, PWM	TVI	TVI, PWM	TVI	TVI, PWM
Panel/module voltage	120V	230V (CE)	220-240V	220-240V (CE)	220-240V (CE)
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Minimum load	25W	40W	40W	10W	10W
Maximum load per circuit	16A	10A	16A	10A	10A
Maximum load per module	16A	13A	16A	16A	16A

Power interfaces
● Compatible load control (no interfaces)
FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PWM: Pulse width modulation interface pg. 530
3F: 3-wire fluorescent power module pg. 516
PA: Phase adaptive power module pg. 514
SW: Switching power module pg. 520

Custom Combination Panel					
Adaptive dimming modules			**Fan speed module**	**Motor module**	**Switching module**
Load voltage					
120V, 110-127V	230V (CE)	220-240V	120V	120V	120V, 110-127V, 220-240V, 230V (CE), 277V, 347V
Dimmed loads					
●	●	●			
●	●	●			
●	●	●			
3F		FDBI-AU			
●					
TVM, TVI	TVM, TVI	TVM, TVI			
TVM, PWM	TVM	TVM, PWM			
TVM [1]	TVM [1]	TVM [1]			
●					
● [3]	● [3]	● [3]			
●	●	●			
Switched loads					
SW, TVI, PWM	TVI	TVI, PWM		●	●
SW, TVI, PWM	TVI	TVI, PWM			●
SW, TVI, PWM	TVI	TVI, PWM		● (AC loads only)	●
SW, TVI, PWM	TVI	TVI, PWM	●		●
120V	220-240V (CE)	220-240V (CE)	120V	120V	100-277V (CE)
50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
10W	10W	10W	0.25A	—	—
10A	8A	8A	2A	5A; 0.5HP	16A; 0.5HP (120V), 1.5HP (277V), 0.5HP (220-240V)
16A	13A	13A	8A	16A	(see per circuit rating)

EVLI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528

ELVI-CE: Electronic low-voltage interface (CE) pg. 524
PB-CE: Power booster (CE) pg. 522
TVM: Ten-volt module in panel

Primary controls

The main devices in a lighting control system that distribute commands to sub-controls, sensors, and control interfaces.

GRAFIK Eye 4000/4500 control unit

POWERED BY
GRX link

BACKBOX
U.S. style

- Models available to control up to 24 zones of lighting
- Provides push-button recall of four preset light scenes plus off on control unit
- Stores up to 12 additional user-programmable scenes
- Available in 42 finishes
- 2-zone:
  W: 5.56 in (141 mm)
  H: 4.56 in (116 mm)
  D: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)

  3-zone:
  W: 7.25 in (184 mm)
  H: 4.56 in (116 mm)
  D: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)

  4-, 6-, 8-, 16-, and 24-zone:
  W: 8.94 in (227 mm)
  H: 4.56 in (116 mm)
  D: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)

GRAFIK Eye 4000 Series slider control unit

POWERED BY
GRX link

BACKBOX
U.S. style

- Models available to control up to 8 zones of lighting
- Provides push-button recall of a single lighting scene plus off on control unit
- Stores up to 11 additional user-programmable scenes
- Allows full-range dimming plus slide-to-off utilizing zone sliders
- Available in nine finishes
- 3- and 4-zone:
  W: 6.69 in (168 mm)
  H: 4.56 in (116 mm)
  D: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)

  6- and 8-zone:
  W: 8.31 in (211 mm)
  H: 4.56 in (116 mm)
  D: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)

Sub-controls

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

Ceiling-mount infrared (IR) receiver

POWERED BY
GRX link

- Provides control of lighting via IR handheld remote controls by providing an access point
- Allows scene selection, raise/lower scenes and all off functionality
- Compatible with all Lutron IR remote controls
- Available in White
- Diameter: 3.50 in (89 mm)
  Depth: 3.00 in (76 mm)
  Profile: 0.75 in (20 mm)

Entrance control

POWERED BY
GRAFIK Eye main unit

BACKBOX
U.S. style

- One button control toggles the connected GRAFIK Eye control unit between Scene 1 and Off
- Connects direct to the GRAFIK Eye control unit
- Ideal for projects that utilize the maximum number of keypads/ wallstations
- Available in 17 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

IR remote control

POWERED BY
Battery

- Models available with four or eight 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)

2-button wallstation

POWERED BY
GRX link

BACKBOX
U.S. style

- Simple, intuitive wallstation ideal for use in entry ways
- Status LEDs indicate which wallstation button has been activated
- Functionality includes scene selection, raise/lower, partitioning and all off
- Available in 17 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Sub-controls (continued)

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

Architectural wallstation

POWERED BY
GRX link

BACKBOX
U.S. style

- Models available with four programmable buttons that can be used for scene selection, scene or zone toggle or to enable/disable time clock
- Select models available with all off and/or raise/lower buttons and infrared (IR) receiver
- Available in 17 finishes, insert or non-insert style in
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Large-button wallstation

POWERED BY
GRX link

BACKBOX
U.S. style

- Models available to select 3, 5, 6 or eight scenes plus raise/lower and all off functionality
- Features large easy-to-use buttons
- Available in 17 finishes
- 5-scene with off and 3-scene with raise/lower and off:
  W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

  8-scene with off and 5-scene with raise/lower and off:
  W: 4.56 in (116 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

Slim-button wallstation

POWERED BY
GRX link

BACKBOX
U.S. style

- Models available with 5, 10, or 15 slim buttons to select scenes
- Large buttons provide either on/off or raise/lower functionality
- Available in 17 finishes
- 5-button and 10-button:
  W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

  15-button:
  W: 4.56 in (116 mm)
  H: 4.56 in (116 mm)
  D: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)

European-style wallstation

POWERED BY
GRX link

BACKBOX
Round or square

- Models available with 2, 4, or 8 programmable buttons plus raise/lower and all off functionality
- Select models offer IR receiver allowing convenient control of lights via IR remote control
- Features large, rounded buttons
- Available in 17 finishes
- Mounts in UK/German single-gang backbox
- W: 3.38 in (86 mm)
  H: 3.38 in (86 mm)
  D: 1.0 in (25 mm)
  Profile: 0.25 in (6 mm)

seeTouch keypad

POWERED BY
GRX link

BACKBOX
U.S. style

- Models available with 1-7 programmable buttons that can be used for scene selection, zone toggle or to enable/disable time clock
- Select models available with all off and/or raise/lower buttons and infrared receiver
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- Available in 40 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

seeTouch window treatment keypad

POWERED BY
GRX link

BACKBOX
U.S. style

- Allows control of one or more window treatment zones simultaneously on GRAFIK Eye control unit
- Can control Sivoia QED and AC motorized treatments (interface required)
- Offers Open, Close, Preset and other functionalities
- Available in 20 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Architrave wallstation

POWERED BY
GRX link

BACKBOX
Lutron® supplied

- Models available with four programmable buttons that can be used for scene selection, zone or scene toggle or to enable/disable time clock
- Offers all off button and is available with slim or large buttons
- Available in 16 finishes
- Slim-button:
  Width: 1.75 in (44 mm)
  Height: 4.50 in (114 mm)
  Depth: 1.75 in (44 mm)
  Profile: 0.13 in (3 mm)

  Large-button:
  Width: 1.50 in (38 mm)
  Height: 5.16 in (131 mm)
  Depth: 1.99 in (51 mm)
  Profile: 0.13 in (3 mm)

Sub-controls (continued)

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

Keyswitch

POWERED BY
GRX link

BACKBOX
U.S. style

- Provides scene selection, enable/disable time clock, partitioning, sequencing and other functionality
- Limits access to lighting control, ideal for public spaces
- Available in 17 finishes, insert or non-insert style
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Multi-channel theatrical consoles

POWERED BY
External transformer

- Fully featured and simple to operate, the consoles were designed and built for professional use
- Available with 12 or 24 channels
- Simultaneous DMX, microplex, and analog output
- 12-channel:
  W: 15.41 in (391 mm)
  H: 10.13 in (257 mm)
  D: 2.87 in (73 mm)

  24-channel:
  W: 25.38 in (645 mm)
  H: 10.13 in (257 mm)
  D: 2.87 in (73 mm)

Partition status keypad/wallstation

POWERED BY
GRX link

BACKBOX
U.S. style

- Coordinates lighting for up to four movable walls (five rooms)
- Available in three wallstation styles – seeTouch, Architectural and European-style
- seeTouch and Architectural wallstations are available with custom-engraved faceplates with project floor plan
- seeTouch (without custom-engraved faceplate):
  W: 2.75 in (70 mm)
  H: 4.56 in (116 mm),
  D: 1.06 in (27 mm)
  Profile: 0.31 in (8 mm)

  Architectural (without custom-engraved faceplate):
  W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

  European-style:
  W: 3.38 in (86 mm)
  H: 3.38 in (86 mm)
  D: 1.00 in (25 mm)
  Profile: 0.25 in (6 mm)

Ballasts and Drivers

Ballasts and drivers are required to control fluorescent and/or LED lighting via the LCP128 dimming panel with or LCP128 spec grade dimming.

EcoSystem ballast

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

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

Hi-lume 3D ballast

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

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

EcoSystem ballasts for compact fluorescent lamps (CFL)

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

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

Hi-lume ballast

POWERED BY
120V
110-277V
277V

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

Ballasts and Drivers (continued)

Ballasts and drivers are required to control fluorescent and/or LED lighting via the LCP128 dimming panel with or LCP128 spec grade dimming.

Tu-wire ballast

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

POWERED BY
120V
110-277V

Hi-lume A-Series LED driver

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

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

Sensors

Wired sensors add convenience by detecting occupancy/vacancy, daylight and partitioning and adjusting accordingly.

Wired LOS-C and LOS-W series occupancy sensors

POWERED BY

20-24 V DC from power pack

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Sensor technology options include passive infrared (IR), ultrasonic and dual technology
- Connects to system via contact closure input interface (power pack required)
- Wall-mount and ceiling-mount models available
- Available in White
- Ceiling-mount:
  Diameter: 4.50 in (114 mm)
  Depth: 1.40 in (38 mm)

  Wall-mount:
  W: 2.70 in (69 mm)
  H: 5.25 in (133 mm)
  D: 3.90 in (99 mm)

Wired high-bay occupancy sensors

POWERED BY

20-24 V DC from power pack

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Passive IR sensor designed for use in high-bay applications
- Maximum mounting height 45 ft (14 m)
- Surface-mount and end-mount models available
- Available in White

  180° and 360° surface-mount:
  Diameter: 4 in (102 mm)
  Depth: 1.5 in (38 mm)

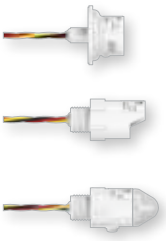
  180° end-mount:
  W: 4.00 in (102 mm)
  H: 4.50 in (114 mm)
  D: 1.50 in (38 mm)

  360° end-mount:
  W: 3.60 in (91 mm)
  H: 4.40 in (112 mm)
  D: 2.00 in (51 mm)

Sensors (continued)

Wired sensors add convenience by detecting occupancy/vacancy, daylight and partitioning and adjusting accordingly.

Daylight sensor package



POWERED BY

20-24 V DC from power pack

- Allow system to switch lights on/off in response to ambient daylight level setting
- Package includes a wired power pack, daylight sensor, and daylight controller
- Package available in 120 or 277 V; sensor options: indoor, outdoor, atrium/skylight
- Indoor sensor:
  W: 1.28 in (33 mm)
  H: 1.15 in (29 mm)

  Outdoor sensor:
  W: 1.85 in (47 mm)
  H: 1.35 in (34 mm)

  Atrium/Skylight sensor:
  W: 2.25 in (57 mm)
  H: 1.28 in (33 mm)

Wired photosensor

POWERED BY

Daylight controller

- Monitors ambient daylight levels and communicates to daylight controller (required)
- Allows controller to adjust lighting automatically
- Available in White
- Diameter: 1.18 in (30 mm)
  Depth: 1.25 in (32 mm)
  Profile: 0.69 in (17 mm)

Infrared (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 contact closure input/output interface for operation
- Surface mounted
- Available in White
- Diameter: 4.56 in (159 mm)
  Depth: 2.69 in (68 mm)
  Profile: 1.50 in (38 mm)

Control interfaces

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

Contact closure output interface

POWERED BY

GRX link or external transformer (12-24 V DC)

- Provides eight dry contact closure outputs
- Compatible with motorized projection screens, window treatments and A/V equipment that have contact closure output
- Offers both normally open and normally closed contacts
- W: 5.75 in (146 mm)
  H: 10.75 in (273 mm)
  D: 2.00 in (50 mm)

Contact closure input/output interface

POWERED BY

GRX link or external transformer (12-24 V DC)

- Provides five inputs and five dry contact closure outputs
- Compatible with motion/occupancy sensors, movable walls, security systems and other products that have contact closure input/output
- Outputs provide both normally open and normally closed contacts
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

Wallbox contact closure input interface

POWERED BY

GRX link or external transformer (12-24 V DC)

- Provides seven contact closure inputs
- Interfaces with third-party low-voltage switches to provide an alternative keypad aesthetic
- Mounts behind third-party low-voltage switch in backbox
- Diameter: 2.31 in (59 mm)
  Depth: 0.81 in (20 mm)

RS232 interface

POWERED BY

GRX link or external transformer (12-24 V DC)

- Allows integration with touchscreen, PC, A/V system or other digital equipment that supports RS232 communication
- Control and monitor switching panel
- Monitor lighting scenes
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

Control interfaces (continued)

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

Ethernet interface

POWERED BY
GRX link or external transformer (12-24 V DC)

- Allows integration with touchscreen, PC, A/V system or other digital equipment that supports TC/ICP communication over Ethernet
- Control and monitor switching panel
- Monitor lighting scenes
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

DMX512 output interface

POWERED BY
GRX link or external transformer (12-24 V DC)

- Allows GRAFIK Eye control unit to operate lighting and other equipment that uses the DMX512 protocol
- Converts GRAFIK Eye zone intensities into DMX512 channel settings
- Each zone is assigned to a DMX512 channel
- W: 5.00 in (127 mm)
  H: 7.75 in (197 mm)
  D: 2.50 in (84 mm)

Time clock/programming interface

POWERED BY
GRX link or external transformer (12-24 V DC)

- Integrates the system with a PC or other digital equipment that supports RS232 or TCP/IP communication
- Built-in astronomical time clock provides ability to schedule lighting events
- Acts as a programming interface for GRAFIK Eye 4500 control units
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

Infrared interface

POWERED BY
GRX link or external transformer (12-24 V DC)

- Allows auxiliary systems equipped with an infrared (IR) emitter to control the system by accessing functions using IR codes
- Two types of codes available: Lutron standard and Lutron PRO
- W: 1.75 in (45 mm)
  H: 4.10 in (105 mm)
  D: 0.90 in (23 mm)

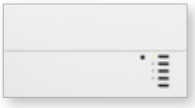
Sivoia QED controller

POWERED BY
GRX link

BACKBOX
U.S. style

- Provides programming and control of one group of Sivoia QED window treatments
- Allows window treatments to be controlled independently or to be incorporated into the lighting scenes
- Available in 17 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

Daylight controller



POWERED BY
GRX link

BACKBOX
U.S. style

- Automatically selects preset scenes in response to ambient daylight
- Features range qualification time which eliminates lighting level fluctuations
- Works with up to three Lutron wired photosensors or one 0-10 V photosensor by others
- Available in White
- W: 8.94 in (227 mm)
  H: 4.56 in (116 mm)
  D: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)

AC motor group controller

POWERED BY
110-127 V
127 V NOM
120 V

- 4-channel AC motor controller that provides capability to seamlessly integrate AC motorized window treatments into the system
- Allows window treatments to be controlled independently or to be incorporated into the lighting scenes
- W: 12.00 in
  H: 7.90 in (200 mm)
  D: 2.75 in (70 mm)

Emergency lighting interface

POWERED BY
GRX link
or
20-24 V DC from
power pack

- Turns designated lighting loads to “full on” output or other programmed emergency light level
- 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)

Control interfaces (continued)

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

Data link repeater

- Allows power panel links to be extended beyond their maximum distances
- Links may be extended 2,000 ft (600 m) for every repeater added
- W: 5.0 in (127 mm)
  H: 7.75 in (197 mm)
  D: 2.50 in (64 mm)

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

Shades

Sivoia QED wired shading systems offer convenient control of daylight at the touch of a button.

Sivoia QED shades

- 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
- Includes a wide variety of fabric offerings to meet every need

Sivoia QED power supply (individual and smart panel)

- 24 V DC supply that provides power to shade and drapery drive units
- Simple wiring scheme 4-conductor low voltage link to provide power and communication to Sivoia QED wired electronic drive units
- 4-conductor panel is available in 120 V and 230 V models

Software and programming

GRAFIK Eye 4000 systems can be programmed via PC-based software or through button-press programming at the panel or wallstation.

Button-press programming via panel or wallstation

- Assign circuits to zones on the on the control units via the buttons of the panel circuit selector
- Use the keypad/wallstation buttons to assign the keypads/wallstations to the control units
- DIP-switches are used to set-up the address and functionality of the keypads/wallstations and control interfaces

GRAFIK Eye Liaison software

- Windows-based utility that allows the programming of a GRAFIK Eye 4500 series main unit
- Programming functionality includes setting scenes, addressing control units and scheduling events
- Allows the extraction of system information and the back-up of programming data

Quantum Total Light Management maximizes the efficient use of light to improve comfort and productivity, simplify operations, and save energy. The Quantum system dims or switches all electric lighting, while simultaneously controlling daylight using automated shades.

Feature highlights

- Dimming, switching and shade control
- Energy management
- Wired and wireless sensors, keypads and shades
- Building management system integration

Typical applications

- Office buildings
- Healthcare facilities
- Convention centers
- Hotels
- Colleges/Universities

Typical components

Radio Powr Savr™ daylight sensor

Pico® wireless control

Radio Powr Savr™
occupancy/vacancy sensor

Energi Savr Node™
with EcoSystem

Quantum® light
management hub (QP2)

seeTouch® QS
keypad

Sivoia® QS
wired shades

Green Glance®

Typical system components and communication

Primary controls

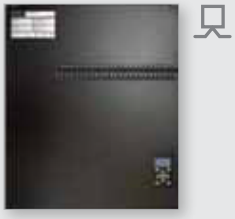
Quantum light management hub (QP2)

Primary controls

GRAFIK Eye® QS with EcoSystem main unit

Energi Savr Node™ with EcoSystem

Power panels

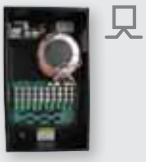


GP dimming panel

LP dimming panel

XP switching panel

Shading systems



Sivoia® QS panel power supply

Sivoia QS wired shades

Third-party

Apple® iPad mobile digital device[1] (WiFi router required)

Building Management System

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

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

Sub-controls

seeTouch®
QS keypad

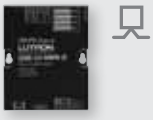
EcoSystem®
wallstation

International seeTouch
QS keypad

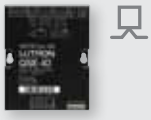
Pico® wireless
controls

Control interfaces

QS sensor
module



RS232
interface



Contact closure
interface

DMX512
interface

Ballasts and drivers

(up to 64 digital ballasts or drivers communicate via each EcoSystem digital link)

EcoSystem ballast

EcoSystem H-Series ballast

Hi-Lume® A-Series LED driver

Sensors

Radio Powr Savr™
wireless occupancy/
vacancy sensor

Radio Powr Savr
wireless daylight
sensor

Radio Shadow
Sensor

Wired communication
Wireless Radio Frequency (RF) communication
Infrared (IR) communication

Understanding how to build a Quantum system

1. **Power panel and primary control selection**
   Select power panels and/or primary controls based on load type and size and the method of control desired.

2. **Design choices**
   Choose control units, wallstations and sensors based on functionality required and the aesthetic desired to compliment the space.

3. **Integration/connecting to third-party devices**
   Utilize control interfaces or native BACnet to connect to third-party devices and systems, such as Building Management Systems and touchscreens.

4. **Shades**
   Wired and wireless shading systems offer convenient control of daylight.

5. **Software and programming**
   Quantum is programmed through PC-based software. The system offers a number of software enhancements to simplify operations and increase occupant comfort and productivity.

Processors

The processor is the heart of the lighting control system providing intelligence and offering a centralized connection point for control and communication.

Quantum light management hub (QP2)

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

- Provides a centralized connection point for EcoSystem® ballasts/drivers/modules, dimming and switching panels and Lutron® QS devices
- Contains up to two Quantum processors with two links each that can be individually configured to communicate with:
  - Quantum bus supply
  - Lutron power panels
  - Lutron QS devices
- Each hub supports up to eight EcoSystem loops; each loop can have up to 64 Ecosystem ballasts/drivers/modules
- W: 15.75 in (400 mm)
  H: 31.50 in (800 mm)
  D: 5.81 in (148 mm)

Quantum light management hub (QP3)

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

- Provides a centralized connection point for dimming and switching panels and Lutron QS devices
- Contains one Quantum processor with two links; each link can be individually configured to communicate with:
  - Lutron power panels
  - Lutron QS devices
- Enables a Quantum system to cost-effectively scale from a single-floor to a whole campus
- W: 9.25 in (235 mm)
  H: 13.25 in (337 mm)
  D: 3.16 in (80 mm)

Power panels

The power panels provide remote dimming and switching capability for all common light sources, including incandescent, fluorescent, LED, CFL, and neon/cathode.

GP dimming panel)

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

- Panel is typically used for high-performance architectural dimming
- Provides power and dimming for up to 144 circuits
- Feed-though or branch circuit breaker panels are available
- Mini:
  W: 11.00in (279mm)
  H: 21.13in (537mm)
  D: 6.25in (160mm)

  Standard:
  W: 28.00in (711mm)
  H: 37.00in (940mm)
  D: 12.00in (304mm)

  Large (GP36):
  W: 26.13in (653mm)
  H: 87.00in (2175mm)
  D: 14.13in (360mm)

  Large:
  W: 52.31in (1308mm)
  H: 87.00in (2175mm)
  D: 14.13in (360mm)

  Extra large:
  W: 52.31in (1308mm)
  H: 87.00in (2175mm)
  D: 28.25in (720mm)

LP dimming panel

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

- Panel is typically used for commercial dimming panels projects with numerous small loads
- Provides power and dimming for up to 32 dimming legs (up to 8 modules, four outputs per module)
- Panels include branch circuit breakers
- Mini:
  W: 15.88in (403mm)
  H: 24.50in (622mm)
  D: 4.21in (107mm)

  Standard:
  W: 15.88in (403mm)
  H: 59.50in (1511mm)
  D: 4.21in (107mm)

Power panels (continued)

The power panels provide remote dimming and switching capability for all common light sources, including incandescent, fluorescent, LED, CFL, and neon/cathode.

XP switching panel

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

- Million-cycle switching panel employs Lutron patented Softswitch technology
- Provides power and switching for up to 48 switching legs
- Feed-though or branch circuit breaker panels available
- Mini:
  W: 15.88 in (403 mm)
  H: 24.50 in (622 mm)
  D: 4.21 in (107 mm)

  Standard:
  W: 15.88 in (403 mm)
  H: 59.50 in (1511 mm)
  D: 4.21 in (107 mm)

  Large:
  W: 23.50 in (597 mm)
  H: 63.50 in (1613 mm)
  D: 6.30 in (160 mm)

  Extra large:
  W: 23.50 in (597 mm)
  H: 82.50 in (2096 mm)
  D: 6.30 in (160 mm)

Custom combination panel (CCP)

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

- Combination dimming and switching panel that is ideal for projects with numerous small loads
- Provides power and dimming for up to 32 dimming/switching legs
- Choose modules based on load type and control required
- Panels include branch circuit breakers
- W: 15.88 in (403 mm)
  H: 59.50 in (1511 mm)
  D: 4.21 in (107 mm)

DCI dimming panel

POWERED BY
120V

- Dimming panel featuring direct current that is ideal for projects that require no radio frequency interference
- Provides power and dimming for up to three circuits
- Lamps are free of flicker and audible noise throughout the entire dimming range
- W: 28.00 in (711 mm)
  H: 37.00 in (940 mm)
  D: 12.00 in (304 mm)

Quantum power panel summary

[1] Foward phase only. Not all ELV transformers and dimmable CFL/LEDs dim properly with forward phase control; may require phase-adaptive power module or electronic low voltage interface for proper dimming. For reverse phase, a phase adaptive power module or electronic low-voltage interface will be required.

[2] DALI broadcast only

	GP panel			
Load voltage				
	120 V, 110-127 V, 127 V (NOM)	277 V	230 V (CE)	220-240 V
Dimmed loads				
Incandescent/halogen	●	●	●	●
Magnetic low-voltage	●	●	●	●
Electronic low-voltage	● [1]	● [1]	● [1]	● [1]
Fluorescent and LED (3-wire)	●	●		●
Fluorescent and LED (EcoSystem®)				
Tu-Wire® fluorescent	●			
Fluorescent and LED (0-10 V)	TVM, TVI	TVM, TVI	TVM, TVI	TVM, TVI
Fluorescent and LED (PWM)	TVM, PWM	TVM, PWM	TVM	TVM, PWM
Fluorescent and LED (DALI)	TVM [2]	TVM [2]	TVM [2]	TVM [2]
LED (2-wire forward phase)	●			
CFL/LED (screw-base)	● [1]	● [1]	● [1]	● [1]
Neon/cold cathode	●		●	●
Switched loads				
Non-dim lighting (loads above)	●	●	●	●
HID	●	●	●	●
Motor loads	SW, TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM
Fan loads	SW, TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM
Panel/module voltage	120 V	277 V	230 V (CE)	220-240 V
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Minimum load	10 W	10 W	10 W	10 W
Maximum load per circuit	16 A	16 A	16 A	16 A
Maximum load per module	—	—	—	—

Power interfaces
- ● Compatible load control (no interfaces)
- **SW:** Switching power module pg. 520
- **PWM:** Pulse width modulation interface pg. 530
- **TVM**: Ten-volt module in panel
- **TVI**: 0-10 V interface pg. 528

Quantum power panel summary (cont.)

	LP panel			DCI dimming panel
	Load voltage			
* DALI broadcast only	120V, 110-127V, 127V (NOM)	230V (CE)	220-240V	120V, 110-127V
Dimmed loads				
Incandescent/halogen	•	•	•	•
Magnetic low-voltage	•	•	•	
Electronic low-voltage	PA	ELVI-CE	ELVI-AU	
Fluorescent and LED (3-wire)	3F		FDBI-AU	
Fluorescent and LED (EcoSystem®)				
Tu-Wire® fluorescent	•			
Fluorescent and LED (0-10V)	TVM, TVI	TVM, TVI	TVM, TVI	
Fluorescent and LED (PWM)	TVM, PWM	TVM	TVM, PWM	
Fluorescent and LED (DALI)	TVM*	TVM*	TVM*	
LED (2-wire forward phase)	•			
CFL/LED (screw-base)	PA	PB-CE, ELVI-CE	PB-AU, ELVI-AU	
Neon/cold cathode	•	•	•	
Switched loads				
Non-dim lighting (loads above)	•	•	•	
HID	SW, TVI, PWM	TVI	TVI, PWM	
Motor loads	SW, TVI, PWM	TVI	TVI, PWM	
Fan loads	SW, TVI, PWM	TVI	TVI, PWM	
Panel/module voltage	120V	230V (CE)	220-240V	120V
Frequency	50/60Hz	50/60Hz	50/60Hz	60Hz
Minimum load	25W	40W	40W	10W
Maximum load per circuit	16A	10A	16A	10A; 1200W
Maximum load per module	16A	13A	16A	10A; 1200W

Power interfaces

- Compatible load control (no interfaces)

FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PWM: Pulse width modulation interface pg. 530
3F: 3-wire fluorescent power module pg. 516
PA: Phase adaptive power module pg. 514
SW: Switching power module pg. 520

XP switching panel				
Load voltage				
120V, 110-127V, 127V (NOM)	277V	347V	230V (CE)	220-240V
Dimmed loads				
Switched loads				
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•
120/277V	120/277V	347V	230V (CE)	220-240V
50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
—	—	—	—	—
16A; 0.5HP	16A; 1.5HP	16A	16A; 0.5HP	16A; 0.5HP
(see per circuit rating)	(see per circuit rating)	(see per circuit rating)	(see per circuit rating)	(see per circuit rating)

ELVI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528

ELVI-CE: Electronic low-voltage interface (CE) pg. 524
PB-CE: Power booster (CE) pg. 522
TVM: Ten-volt module in panel

GRAFIK Eye 4000 power panel summary (cont.)

[1] DALI broadcast only
[2] Reverse phase only. Forward phase loads will require a power booster for proper dimming.
[3] Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with this module.

Custom Combination Panel		
Dimming modules		
Load voltage		
120V, 110-127V	230V (CE)	220-240V
Dimmed loads		
Incandescent/halogen	●	●	●
Magnetic low-voltage	●	●	●
Electronic low-voltage	PA	ELVI-CE	ELVI-AU
Fluorescent and LED (3-wire)	3F		FDBI-AU
Fluorescent and LED (EcoSystem®)			
Tu-Wire® fluorescent	●		
Fluorescent and LED (0-10V)	TVM, TVI	TVM, TVI	TVM, TVI
Fluorescent and LED (PWM)	TVM, PWM	TVM	TVM, PWM
Fluorescent and LED (DALI)	TVM [1]	TVM [1]	TVM [1]
LED (2-wire forward phase)	●		
CFL/LED (screw-base)	PA	PB-CE, ELVI-CE	PB-AU, ELVI-AU
Neon/cold cathode	●	●	●
Switched loads		
Non-dim lighting (loads above)	●	●	●
HID	SW, TVI, PWM	TVI	TVI, PWM
Motor loads	SW, TVI, PWM	TVI	TVI, PWM
Fan loads (switched or speed control)	SW, TVI, PWM	TVI	TVI, PWM
Panel/module voltage	120V	230V (CE)	220-240V
Frequency	50/60Hz	50/60Hz	50/60Hz
Minimum load	25W	40W	40W
Maximum load per circuit	16A	10A	16A
Maximum load per module	16A	13A	16A

Power interfaces
● Compatible load control (no interfaces)
FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PWM: Pulse width modulation interface pg. 530
3F: 3-wire fluorescent power module pg. 516
PA: Phase adaptive power module pg. 514
SW: Switching power module pg. 520

Custom Combination Panel					
Electronic low-voltage modules		**Adaptive dimming modules**			**Switching module**
Load voltage					
230V (CE)	220-240V	120V, 110-127V	230V (CE)	220-240V	120V, 110-127V, 220-240V, 230V (CE), 277V, 347V
Dimmed loads					
●	●	●	●	●	
PB-CE	PB-AU	●	●	●	
●	●	●	●	●	
	FDBI-AU	3F		FDBI-AU	
		●			
TVM, TVI	TVM, TVI	TVM, TVI	TVM, TVI	TVM, TVI	
TVM	TVM, PWM	TVM, PWM	TVM	TVM, PWM	
TVM [1]	TVM [1]	TVM [1]	TVM [1]	TVM [1]	
		●			
● [2]	● [2]	● [3]	● [3]	● [3]	
PB-CE	PB-AU	●	●	●	
Switched loads					
TVI	TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM	●
TVI	TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM	●
TVI	TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM	●
TVI	TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM	●
220-240V (CE)	220-240V (CE)	120V	220-240V (CE)	220-240V (CE)	100-277V (CE)
50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
10W	10W	10W	10W	10W	—
10A	10A	10A	8A	8A	16A; 0.5HP (120V), 1.5HP (277V), 0.5HP (220-240V)
16A	16A	16A	13A	13A	(see per circuit rating)

ELVI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528

ELVI-CE: Electronic low-voltage interface (CE) pg. 524
PB-CE: Power booster (CE) pg. 522
TVM: Ten-volt module in panel

Primary controls

The main devices in a lighting control system that distribute commands to sub-controls, sensors, control interfaces and lighting loads.

GRAFIK Eye® QS main unit

POWERED BY
120V 110-127V 110-127V NOM 220-240V 230V 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 and Radio Powr Savr™ sensors 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 time clock
- Available in 41 finishes
- W: 9.38 in (239 mm)
  H: 4.69 in (119 mm)
  D: 2.00 in (51 mm)
  Profile: 0.38 in (10 mm)

GRAFIK Eye QS with EcoSystem®/DALI main unit

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

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

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 and Radio Powr Savr sensors 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 time clock
- 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)

Quantum primary control summary

	GRAFIK Eye® QS main units		
	Load voltage		
	120V, 110-127V, 127V (NOM)	277V*	220-240V
Dimmed loads			
Incandescent/halogen	•	PA	•
Magnetic low-voltage	•	PA	•
Electronic low-voltage	PA	PA	ELVI-AU
Fluorescent and LED (3-wire)	3F	3F	FDBI-AU
Fluorescent and LED (EcoSystem®)			
Tu-Wire® fluorescent	•		
Fluorescent and LED (0-10V)	TVI	TVI	TVI
Fluorescent and LED (PWM)	PWM	PWM	PWM
Fluorescent and LED (DALI)			
LED (2-wire forward phase)	•		
CFL/LED (screw-base)	PA	PA	PB-AU, ELVI-AU
Neon/cold cathode	•		•
Switched loads			
Non-dim lighting (loads above)	•	SW, TVI, PWM	•
HID	SW, TVI, PWM	SW, TVI, PWM	TVI, PWM
Motor loads	SW, TVI, PWM	SW, TVI, PWM	TVI, PWM
Fan loads	SW, TVI, PWM	SW, TVI, PWM	TVI, PWM
Panel/module voltage	120-127V/ 220-240V	120-127V/ 220-240V	120-127V/ 220-240V
Frequency	50/60Hz	50/60Hz	50/60Hz
Minimum load	25	25	40
Maximum load per circuit	800W, 600W (MLV)	800W, 600W (MLV)	1200W, 960W (MLV)
Maximum load per module	2000W, 1600(MLV)	2000W, 1600(MLV)	3000W, 2400W (MLV)

* Requires 120V control input

Power interfaces
- • Compatible load control (no interfaces)
- **SW:** Switching power module pg. 520
- **PWM:** Pulse width modulation interface pg. 530
- **TVI:** 0-10V interface pg. 528

Quantum primary control summary (cont.)

	GRAFIK Eye® QS main units		GRAFIK Eye QS with DALI main units
	Load voltage		
* Requires 120V control input	230V (CE)	220-240V	220-240V, 230V (CE)
Dimmed loads			
Incandescent/halogen	•	•	
Magnetic low-voltage	•	•	
Electronic low-voltage	ELVI-CE	ELVI-AU	
Fluorescent and LED (3-wire)		FDBI-AU	
Fluorescent and LED (EcoSystem®)			
Tu-Wire® fluorescent			
Fluorescent and LED (0-10V)	TVI	TVI	
Fluorescent and LED (PWM)		PWM	
Fluorescent and LED (DALI)			•
LED (2-wire forward phase)	•		
CFL/LED (screw-base)	PB-CE, ELVI-CE	PB-AU, ELVI-AU	
Neon/cold cathode	•	•	
Switched loads			
Non-dim lighting (loads above)	•	•	
HID	TVI	TVI, PWM	
Motor loads	TVI	TVI, PWM	
Fan loads (switched or speed control)	TVI	TVI, PWM	
Main unit voltage	230V (CE)	230V (CE)	230V (CE)
Frequency	50/60Hz	50/60Hz	50/60Hz
Minimum capacity per zone	40	40	—
Maximum capacity per zone	500W, 400W (MLV)	500W, 400W (MLV)	—
Unit capacity	3-zone: 1500W, 1200W (MLV); 4-zone: 2000W, 1600W (MLV); 6-zone: 2300W	3-zone: 1500W, 1200W (MLV); 4-zone: 2000W, 1600W (MLV); 6-zone: 2300W	64 DALI ballasts

Power interfaces

- Compatible load control (no interfaces)

ELVI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528
3F: 3-wire fluorescent power module pg. 516
ELVI-CE: Electronic low-voltage interface (CE) pg. 524
PB-CE: Power booster (CE) pg. 522
WBX: Phase adaptive power module with 3-wire input pg. 518

GRAFIK Eye® QS with EcoSystem main units			
Load voltage			
120V, 110-127V, 127V NOM	277V*	347V*	220-240V
Dimmed loads			
•	PA		•
•	PA		•
PA	PA		ELVI-AU
3F, BMF, BMJ	3F, BMF, BMJ		FDBI-AU
•	•	•	•
•			
TVI, LMF	TVI, LMF		TVI
PWM	PWM		PWM
•			
PA	PA		PB-AU, ELVI-AU
•			•
Switched loads			
•	XPJ, SW, TVI, PWM		•
SW, TVI, PWM	SW, TVI, PWM		TVI, PWM
XPJ, SW, TVI, PWM	XPJ, SW, TVI, PWM		TVI, PWM
XPJ, SW, TVI, PWM	XPJ, SW, TVI, PWM		TVI, PWM
120-127V/ 220-240V	120-127V/ 220-240V	120-127V/ 220-240V	120-127V/ 220-240V
50/60Hz	50/60Hz	50/60Hz	50/60Hz
25	25	25	40
800W, 600W (MLV)	800W, 600W (MLV)	800W, 600W (MLV)	1200W, 960W (MLV)
2000W, 1600W (MLV)	2000W, 1600W (MLV)	2000W, 1600W (MLV)	3000W, 2400W (MLV)

BMJ: EcoSystem dimming power module pg. 534
FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PWM: Pulse width modulation interface pg. 530
XPJ: EcoSystem switching power module pg. 536
BMF: EcoSystem fixture module pg. 538
PA: Phase adaptive power module pg. 514
SW: Switching power module pg. 520
LMF: 0-10V to EcoSystem interface pg. 540

Primary controls (continued)

The main devices in a lighting control system that distribute commands to sub-controls, sensors, control interfaces and lighting loads.

Energi Savr Node™ with EcoSystem

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

- Provides control of up to 64 or 128 EcoSystem® compatible devices
- Wired communication with keypads/wallstations, sensors and control interfaces via the QS link
- Wireless communication with Pico® wireless sensors and Radio Powr Savr™ sensors via a QS sensor module
- Panel:
  W: 9.25 in (162 mm)
  H: 13.25 in (335 mm)
  D: 3.16 in (80 mm)
- DIN-rail;
  W: 6.36 in (162 mm)
  H: 3.53 in (90 mm)
  D: 2.39 in (61 mm)

Energi Savr Node for DALI

POWERED BY
220-240V 230V CE

- Provides control of two loops of DALI compliant digital addressable loads; 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 the QS link
- Wireless communication with Pico wireless sensors and Radio Powr Savr sensors via a QS sensor module
- W: 6.36 in (162 mm)
  H: 3.53 in (90 mm)
  D: 2.39 in (61 mm)

Energi Savr Node with Softswitch/ Energi Savr Node for Switching

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

- Controls up to four 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 the QS link
- Wireless communication with Pico wireless sensors and Radio Powr Savr sensors via a QS sensor module
- Panel:
  W: 9.25 in (235 mm)
  H: 13.25 in (337 mm)
  D: 3.16 in (80 mm)
- DIN-rail:
  W: 6.36 in (162 mm)
  H: 3.53 in (90 mm)
  D: 2.39 in (61 mm)

Energi Savr Node for 0-10V

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

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

Energi Savr Node phase adaptive

POWERED BY
220-240V 230V CE

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

Quantum primary control summary

	Energi Savr Node™ with EcoSystem®			
	Load voltage			
	120V, 110-127V, 127V NOM	277V	220-240V	347V[1]
Dimmed loads				
Incandescent/halogen	BMJ + WBX	BMJ + WBX	BMJ + WBX	
Magnetic low-voltage	BMJ + WBX	BMJ + WBX	BMJ + WBX	
Electronic low-voltage	BMJ + WBX	BMJ + WBX	BMJ + WBX	
Fluorescent and LED (3-wire)	BMJ, BMF	BMJ, BMF	BMJ, BMF	
Fluorescent and LED (EcoSystem®)	●	●	●	●
Tu-Wire® fluorescent	BMJ + WBX			
Fluorescent and LED (0-10V)	LMF	LMF	LMF	
Fluorescent and LED (PWM)				
Fluorescent and LED (DALI)				
LED (2-wire forward phase)				
CFL/LED (screw-base)	BMJ + WBX	BMJ + WBX	BMJ + WBX	
Neon/cold cathode	BMJ + WBX	BMJ + WBX	BMJ + WBX	
Switched loads				
Non-dim lighting (loads above)	XPJ	XPJ	XPJ	
HID				
Motor loads	XPJ	XPJ	XPJ	
Fan loads	XPJ	XPJ	XPJ	
Energi Savr Node voltage	120-277V	120-277V	120-277V	120-277V
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Maximum capacity per loop/zone	64 EcoSystem devices	64 EcoSystem devices	64 EcoSystem devices	64 EcoSystem devices

[1] To control 347V loads, use Energi Savr Node with EcoSystem fed by 120V

[2] Does not provide interlock between outputs

Power interfaces

● Compatible load control (no interfaces)

XPJ: EcoSystem switching power module pg. 536

BMJ: EcoSystem dimming power module pg. 534

Energi Savr Node with EcoSystem (DIN-rail)	Energi Savr Node for DALI (DIN-rail)	Energi Savr Node with Softswitch			
Load voltage					
220-240 V, 230 V (CE)	220-240 V, 230 V (CE)	120 V, 110-127 V, 127 V (NOM)	277 V	220-240 V	347 V
Dimmed loads					
●					
	●				
Switched loads					
		●	●	●	●
		●	●	●	
		●[2]	●[2]	●[2]	
		●	●	●	
220-240 V (CE)	220-240 V (CE)	120-277 V	120-277 V	120-277 V	120-127 V
50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
64 EcoSystem devices	64 DALI devices	16 A; 0.5 HP	16 A; 0.5 HP	16 A; 0.5 HP	16 A

LMF: EcoSystem to 0-10 V interface pg. 540

WBX: Phase adaptive power module with 3-wire input pg. 518

Quantum primary control summary (cont.)

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

	Energi Savr Node™ for switching (DIN-rail)	Energi Savr Node for 0-10V		
	Load voltage			
	220-240V, 230V (CE)	120V, 110-127V, 127V (NOM)	277V	220-240V
Dimmed loads				
Incandescent/halogen				
Magnetic low-voltage				
Electronic low-voltage				
Fluorescent and LED (3-wire)				
Fluorescent and LED (EcoSystem®)				
Tu-Wire® fluorescent				
Fluorescent and LED (0-10V)		●	●	●
Fluorescent and LED (PWM)				
Fluorescent and LED (DALI)				
LED (2-wire forward phase)				
CFL/LED (screw-base)				
Neon/cold cathode				
Switched loads				
Non-dim lighting (loads above)	●	●	●	●
HID	●	●	●	●
Motor loads		●	●	●
Fan loads		●	●	●
Energi Savr Node voltage	220-240V (CE)	120-277V	120-277V	120-277V
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Maximum capacity per loop/zone	10A	16A, 50mA (0-10V); 0.5HP	16A, 50mA (0-10V); 1.5HP	16A, 50mA (0-10V); 1.5HP

Power interfaces
● Compatible load control (no interfaces)

TVI: 0-10V interface pg. 528

Energi Savr Node for 0-10 V (DIN-rail)	Energi Savr Node phase adaptive (DIN-rail)	
Load voltage		
220-240 V, 230 V (CE)	230 V (CE)	220-240 V
Dimmed loads		
	●	●
	●	●
	●	●
		FDBI-AU
●	TVI	TVI
		PWM
	●*	●*
	●	●
Switched loads		
●	TVI	TVI, PWM
●	TVI	TVI, PWM
	TVI	TVI, PWM
	TVI	TVI, PWM
220-240 V (CE)	220-240 V (CE)	220-240 V (CE)
50/60 Hz	50/60 Hz	50/60 Hz
10 A, 50 mA (0-10 V)	Zone: 1: 800 W, 600 W (MLV/NCC); Zone 2-4: 500 W, 375 W (MLV/NCC)	Zone: 1: 800 W, 600 W (MLV/NCC); Zone 2-4: 500 W, 375 W (MLV/NCC)

FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526

PWM: Pulse width modulation interface pg. 530

Sub-controls

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

EcoSystem® IR remote control and IR receiver

POWERED BY
Battery

- Allows user to adjust the lights from minimum to maximum and set and recall a favorite scene
- Infrared (IR) remote control communicates via IR signal to the 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

IR remote control

POWERED BY
Battery

- Models available with four or eight 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)

Pico wireless control

POWERED BY
Battery

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

- Controls scenes and zones of light
- Four button configurations available with options for preset and raise/lower
- Available in five 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)

Pico wired control

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

POWERED BY
20 V DC from ESN, or ballast/ module with input or QS link, 1 PDU

BACKBOX
U.S. style

seeTouch QS keypad

- Models available with 1-7 programmable buttons that can be used for scene selection, zone toggle, sequencing and partitioning
- Select models available with all off and/or raise/lower buttons and IR receiver
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- Available in 41 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)

POWERED BY
QS link, 1 PDU

BACKBOX
U.S. style

EcoSystem wallstation

- 4-button model with scene and zone toggle functionality
- Infrared (IR) receiver allowing convenient control of lights via IR remote control
- Available in four finishes
- W: 2.94 in (75 mm)
  H: 4.69 in (119 mm)
  D: 1.56 in (40 mm)
  Profile: 0.31 in (8 mm)

POWERED BY
20 V DC from ESN, or ballast/ module with input or QS link, 1 PDU (with QSM)

BACKBOX
U.S. style

International seeTouch QS keypad

- Models available with 2-7 programmable buttons that can used for scene selection, zone toggle, sequencing and partitioning
- Select models available with all off and/or raise/lower buttons and IR receiver
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- 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)

POWERED BY
QS link, 1 PDU

BACKBOX
Round or square

Sub-controls (continued)

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

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 eight 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)

Multi-channel theatrical consoles

POWERED BY
120V

- Fully featured and simple to operate the consoles were designed and built for professional use
- Available with 12 or 24 channels
- Simultaneous DMX, microplex, and analog output
- 12-channel:
  W: 15.41 in (391 mm)
  H: 10.13 in (257 mm)
  D: 2.87 in (73 mm)

  24-channel:
  W: 25.38 in (645 mm)
  H: 10.13 in (257 mm)
  D: 2.87 in (73 mm)

Ballast and drivers

Ballasts and drivers are required to dim fluorescent and/or LED lighting and to control via processor, power panel, and/or primary control.

EcoSystem ballast

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

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

EcoSystem ballasts for compact fluorescent lamps (CFL)

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

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

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

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

Hi-lume 3D ballast

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

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

Ballast and drivers

Ballasts and drivers are required to dim fluorescent and/or LED lighting and to control via processor, power panel, and/or primary control.

Hi-lume ballast

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

POWERED BY
120V
110-127V
277V

Hi-lume A-Series LED driver

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

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

Tu-wire ballast

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

POWERED BY
120V
110-127V

EcoSystem LED driver

- Continuous, flicker-free dimming from 100% to 1%
- Models available for LED light engines up to 25W, constant current or constant voltage
- Available with EcoSystem digital link

POWERED BY
220-240V
230V CE

Sensors

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

Wireless

Radio Powr Savr™ wireless occupancy/vacancy sensor

POWERED BY
Battery

FREQUENCY
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
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
- Diameter: 1.60 in (41 mm)
  Depth: 0.70 in (17 mm)

Radio Shadow wireless sensor

POWERED BY
Battery

FREQUENCY
434 MHz

- Enhances the performance of Hyperion® solar-adaptive shading systems
- Maximizes available views and occupant comfort when shadows are cast on building or when cloudy conditions prevail
- 10-year battery life
- Diameter: 1.60 in (41 mm)
  Depth: 0.70 in (17 mm)

Sensors (continued)

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

Wired

Wired LOS-C and LOS-W series occupancy sensor

POWERED BY
20 V DC from ESN, GRAFIK Eye QS main unit, power pack, or ballast/module with sensor connection or QS link, 2 PDUs

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Sensor technology options include passive infrared (IR), ultrasonic and dual technology
- Wall-mount and ceiling-mount models available
- Available in White
- Ceiling-mount:
  Diameter: 4.50 in (114 mm)
  Depth: 1.40 in (38 mm)

  Wall-mount:
  W: 2.70 in (69 mm)
  H: 5.25 in (133 mm)
  D: 3.90 in (99 mm)

Wired high-bay occupancy sensors

POWERED BY
20 V DC from ESN, GRAFIK Eye QS main unit, power pack, or ballast/module with sensor connection or QS link, 2 PDUs

- Automatically turns lighting scenes/zones on and/or off based on space occupancy
- Passive IR sensor designed for use in high-bay applications
- Maximum mounting height 45 ft (14 m)
- Surface-mount and end-mount models available
- Available in White
- 180° and 360° surface-mount:
  Diameter: 4.00 in (102 mm)
  Depth: 1.5 in (38 mm)

  180° end-mount:
  W: 4.00 in (102 mm)
  H: 4.50 in (114 mm)
  D: 1.50 in (38 mm)

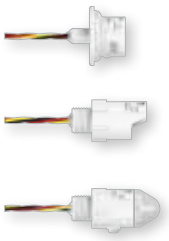
  360° end-mount:
  W: 3.60 in (91 mm)
  H: 4.40 in (112 mm)
  D: 2.00 in (51 mm)

Wired daylight sensor

POWERED BY
20 V DC from ESN or ballast/module with sensor connection or QS link, ½ PDU

- 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: 0.69 in (17 mm)

Daylight sensor package



POWERED BY
20-24 V DC from power pack

- Allow system to switch lights on/off in response to ambient daylight level setting
- Package includes a wired power pack, daylight sensor, and daylight controller
- Package available in 120 or 277 V; sensor options: indoor, outdoor, atrium/skylight
- Indoor sensor:
  W: 1.28 in (33 mm)
  H: 1.15 in (29 mm)

  Outdoor sensor:
  W: 1.85 in (47 mm)
  H: 1.35 in (34 mm)

  Atrium/Skylight sensor:
  W: 2.25 in (57 mm)
  H: 1.28 in (33 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 input/output interface or seeTouch® QS keypad 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 interfaces

Use control interfaces to combine Lutron® lighting controls with other third-party devices and systems for advanced integration.

QS contact closure interface

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

- Provides five contact closure inputs and five contact closure outputs
- Allows integration with third-party equipment, such as motion/occupancy sensors, time clocks and movable 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)

QS DMX512 output interface

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

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

QS RS232/Ethernet interface

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

- Allows integration with a touchscreen, 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 areas and 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 or controls and ten each of the wireless devices—occupancy/vacancy sensors, daylight sensors and Pico® wireless controls
- Junction box or ceiling-mount options available
- Diameter: 4.04 in (103 mm)
  Depth: 0.74 in (19 mm)
  Profile: 0.43 in (11 mm)

Emergency lighting interface

POWERED BY
External transformer (24 V DC)

- Turns all or designated lighting loads to “full on” output or other programmed emergency light levels
- 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)

Energy meter

POWERED BY
120 V 277 V 347 V

- Provides accurate, real time energy measurement of lighting, HVAC, and/or plug loads coupled with verification capability via Quantum software
- Each meter includes one set of three split-core current sensors
- Metered data contributes to LEED certification
- Meter:
  W: 7.00 in (178 mm)
  H: 7.50 in (191 mm)
  D: 3.25 in (83 mm)

Data link repeater

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

- Allows power panel links to be extended beyond their maximum distances
- Links may be extended 2,000 ft (600 m) for every repeater added
- Models available for 120 V and 220-240 V (CE)
- W: 5.00 in (127 mm)
  H: 7.75 in (197 mm)
  D: 2.5 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 motors
- 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)

Shades

Sivoia® QS wired shading systems offer convenient control of daylight at the touch of a button and can be controlled via Hyperion® solar adaptive shading software.

Sivoia QS wired shades

FREQUENCY
External transformer (12-24 V DC)

- 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
- Includes a wide variety of fabric offerings to meet every need
- Wired shades communicate via the QS link

Sivoia QS power supply

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

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

Software and programming

Quantum is programmed through PC-based software. The system offers a number of software enhancements to simplify operations and increase occupant comfort and productivity.

Q-admin™ software for lights

- Allows facility staff to manage the electric light and daylight in the space to maximize energy efficiency, comfort and productivity

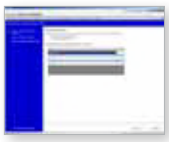
BACnet software

- Enables third-party building management systems to control, monitor and manage lights and shades within the system

Q-admin software for shades

- Allows facility staff to manage the motorized window treatments in the space to maximize energy efficiency, comfort and productivity

DALI Emergency Ballast Management software



- Provides the ability to monitor, manage and test DALI emergency devices that are connected to the system

Custom floorplan software

- Provides a simple, intuitive graphical user interface to control lighting and shades via the Q-admin software

Q-Reporting software

- Creates detailed reports on lighting power and energy usage to simplify operations

Green Glance® software

- Allows real-time and historical lighting energy data to be displayed on an LCD display or computer monitor

Personna® PC

- Allows the occupants of the building personal control of their lighting and window treatments from any device that can run web browser

Q-Control +

- Allows control and programming of the system via an Apple iPad mobile device
- Provides mobile control and monitoring of area lighting and window treatments

HomeWorks QS is designed for residential applications, integrating control of all light. The system also integrates with third-party equipment to provide control of HVAC and A/V systems. And it does all that while saving energy.

Feature highlights

- Preset multi-room scenes
- Smart device control
- Temperature control
- Astronomical time clock
- PC-based programming
- Demand response capable

Designer-style seeTouch® keypad

Ivalo® lighting

Remote power feed-through panel

Pico® wireless controls

Processor

Dynamic keypad

Radio Powr Savr™ occupancy/vacancy sensor

Sivoia® QS wireless shades

Designer dimmers

Wireless tabletop keypad

Hybrid repeater

Typical system components and how they communicate

Processors

Processor

Hybrid repeater

Primary controls

GRAFIK Eye® QS main unit

Plug-in modules

Dimmers and switches

Hybrid keypad

Tabletop lamp dimmer

Wallbox power module

Power panels

Remote power panel with remote power modules

Power module (DIN-rail)

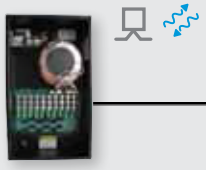
Spec grade panel

Sensors

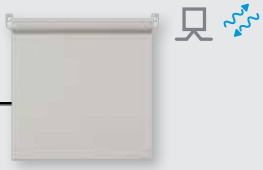
Radio Powr Savr™ wireless ceiling-mount, and corner-, hallway- and wall-mount occupancy/vacancy sensor

Wireless temperature sensor

Shades



QS power supply



Sivoia® QS wired/ wireless shades

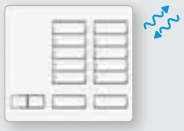
For illustration purposes only, consult specification submittals and/or installation instructions for wiring information.

Sub-controls

seeTouch® keypads

Dynamic keypad

Pico® wireless control



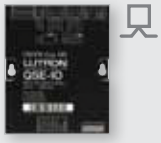
Tabletop keypad

Car visor control transmitter

TouchPRO® Wireless thermostat

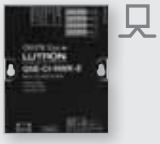
seeTemp® wall control

Control interfaces



Contact closure

DMX



RS232

Visor control receiver

HVAC controller

Third-party devices

A/V equipment (by others)

IR remote control (by others)

Security system (by others)

HVAC equipment (by others)

Touch panel control (by others)

Home control and app (mobile device by others)

Garage door opener (by others)

Wired communication

Wireless Radio Frequency (RF) communication

Infrared (IR) communication

For individual product capacities, wireless ranges, and specific wiring/communication information, see the component pages beginning on pg. 210.

How to build a HomeWorks QS system

1. **Select a design option**
   Determine if the system will have a centralized (powered remotely, minimized wall clutter), localized (switches replaced by system dimmers/switches) or a hybrid of the two

2. **Determine control station plan**
   Choose the location of keypads/wallstations based on the habits of the residents, then select the control station aesthetic to compliment the space

3. **Add convenience and expand functionality**
   Complete the design with tabletop keypads, lamp dimmers and plug-in modules.

4. **Integration/connecting to third-party devices**
   Utilize controllers and control interfaces to connect to third-party devices and systems, such as HVAC and A/V systems

5. **Shades**
   Wired and wireless shading systems offer convenient control of daylight.

6. **Software and programming**
   HomeWorks QS is programmed through PC-based software. The system also offers a convenient mobile app, allowing the control of the lights, shades and HVAC remotely.

Processors

The processor is the heart of the lighting control system providing intelligence and offering a centralized connection point for control and communication.

Processor

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

- Provides control and communication to HomeWorks QS components
- Contains two links each that can be individually configured to communicate with:
  - HomeWorks/HomeWorks QS power panels
  - HomeWorks QS wired devices
  - HomeWorks QS wireless devices
- Two-built in Ethernet links
- W: 4.25 in (108 mm)
  H: 5.25 in (133 mm)
  D: 1.06 in (27 mm)

Hybrid repeater

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

- Adds radio frequency (RF) communication to a HomeWorks QS system
- Extends the range of the RF signals of the wireless devices
- Up to four repeaters can be added to the RF link of a HomeWorks QS processor
- W: 4.25 in (108 mm)
  H: 5.25 in (133 mm)
  D: 1.06 in (27 mm)

Module Interface

- Controls up to eight remote power modules (RPMs) in a remote power panel enclosure
- Manages the communication between the RPMs and the HomeWorks QS processor
- Compatible with all HomeWorks QS RPMs
- W: 13.13in (333mm)
  H: 3.00in (76mm)
  D: 3.63in (92mm)

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

Power Panels

The power panels provide remote dimming and switching capability for all common light sources, including incandescent, fluorescent, LED, CFL, and neon/cathode.

Remote power feed-through panel

- Can house up to 8 remote power modules (RPMs) in any combination, one module interface, up to two processors or interfaces and two power supplies
- May be distributed throughout the home for added wiring flexibility
- 5-module:
  W: 14.38in (365mm)
  H: 32.00in (810mm)
  D: 4.25in (105mm)

  8-module:
  W: 14.38in (365mm)
  H: 59.00in (1500mm)
  D: 4.25in (105mm)

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

Remote power panel with breakers

- Can house up to 8 remote power modules (RPMs) in any combination, 1-module interface, and breakers
- Available with standard, arc-fault and international breakers
- May be distributed throughout the home for added wiring flexibility
- 2-module:
  W: 15.13in (384mm); H: 24.00in (610mm); D: 4.13in (105mm)

  8-module:
  W: 15.13in (384mm); H: 59.00in (1500mm); D: 4.13in (105mm)

  8-module (international):
  W: 16.88in (427mm); H: 63.00in (1600mm); D: 4.00in (102mm)

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

Spec grade panel

- Panel is typically used for high-performance architectural dimming
- Provides power and dimming for up to 72 circuits
- Circuits rated for 16A
- Standard:
  W: 28.00in (711mm); H: 37.00in (940mm); D: 12.00in (304mm)

  Large (36):
  W: 26.13in (653mm); H: 87.00in (2175mm); D: 14.13in (360mm)

  Large (48-72):
  W: 52.31in (1308mm); H: 87.00in (2175mm); D: 14.13in (360mm)

POWERED BY
120V
110-127V
127V NOM

Dimming remote power module

- Controls up to 4 circuits of lighting
- Mounts in HomeWorks QS remote power feed-through or breaker panel
- W: 3.88in (98mm)
  H: 7.00in (178mm)
  D: 3.50in (89mm)

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

Adaptive dimming remote power module

- Controls up to 4 circuits of lighting
- Automatically selects leading edge or trail edge dimming
- Mounts in HomeWorks QS remote power feed-through or breaker panel
- W: 3.88in (98mm)
  H: 7.00in (178mm)
  D: 3.50in (89mm)

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

Relay remote power module

- Controls up to 4 circuits of switched lighting, fans or motor loads
- Mounts in HomeWorks QS remote power feed-through or breaker panel
- W: 3.88in (98mm)
  H: 7.00in (178mm)
  D: 3.50in (89mm)

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

Motor remote power module

- Controls up to 4 circuits of 3-wire AC motor loads
- Mounts in HomeWorks QS remote power feed-through or breaker panel
- W: 3.88in (98mm)
  H: 7.88in (200mm)
  D: 2.80in (73mm)

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

Fan speed remote power module

- Provides four-speed control to 4 circuits of ceiling fans
- Mounts in HomeWorks QS remote power feed-through or breaker panel
- W: 3.88in (98mm)
  H: 7.88in (200mm)
  D: 2.80in (73mm)

POWERED BY
120V
110-127V
127V NOM

HomeWorks QS power panel summary

[1] Foward phase only. Not all ELV transformers and dimmable CFL/LEDs dim properly with forward phase control; may require phase-adaptive power module or electronic low voltage interface for proper dimming. For reverse phase, a phase adaptive power module or electronic low-voltage interface will be required.

[2] DALI broadcast only

Spec grade panel

Load voltages	120V, 110-127V, 127V (NOM)	277V	230V (CE)	220-240V
Dimmed loads				
Incandescent/halogen	●	●	●	●
Magnetic low-voltage	●	●	●	●
Electronic low-voltage	●[1]	●[1]	●[1]	●[1]
Fluorescent and LED (3-wire)	●	●		●
Fluorescent and LED (EcoSystem®)				
Tu-wire® fluorescent	●			
Fluorescent and LED (0-10V)	TVM, TVI	TVM, TVI	TVM, TVI	TVM, TVI
Fluorescent and LED (PWM)	TVM, PWM	TVM, PWM	TVM	TVM, PWM
Fluorescent and LED (DALI)	TVM[2]	TVM[2]	TVM[2]	TVM[2]
LED (2-wire forward adaptive)	●			
CFL/LED (screw-base)	●[1]	●[1]	●[1]	●[1]
Neon/cold cathode*	●		●	●
Switched loads				
Non-dim lighting (loads above)	●	●	●	●
HID	●	●	●	●
Motor loads	SW, TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM
Fan loads	SW, TVI, PWM	SW, TVI, PWM	TVI	TVI, PWM
Panel/module voltage	120V	277V	230V (CE)	220-240V
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Minimum load	10W	10W	10W	10W
Maximum load per circuit	16A	16A	16A	16A
Maximum load per module	—	—	—	—

Power interfaces

- ● Compatible load control (no interfaces)

FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PWM: Pulse width modulation interface pg. 530
3F: 3-wire fluorescent power module pg. 516
PA: Phase adaptive power module pg. 514
SW: Switching power module pg. 520

Dimming modules

Load voltages		
120V, 110-127V, 127V (NOM)	230V (CE)	220-240V
Dimmed loads		
•	•	•
•	•	•
PA	ELVI-CE	ELVI-AU
3F		FDBI-AU
•		
TVM, TVI	TVM, TVI	TVM, TVI
TVM, PWM	TVM	TVM, PWM
TVM [1]	TVM [1]	TVM [1]
•		
PA	PB-CE, ELVI-CE	PB-AU, ELVI-AU
•	•	•
Switched loads		
•	•	•
SW, TVI, PWM	TVI	TVI, PWM
SW, TVI, PWM	TVI	TVI, PWM
SW, TVI, PWM	TVI	TVI, PWM
120V	230V (CE)	220-240V
50/60Hz	50/60Hz	50/60Hz
25W	40W	40W
16A	10A	16A
16A	13A	16A

ELVI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528

ELVI-CE: Electronic low-voltage interface (CE) pg. 524
PB-CE: Power booster (CE) pg. 522
TVM: Ten-volt module in panel

HomeWorks QS power panel summary (cont.)

Adaptive dimming modules

	Load voltages		
	120V, 110-127V, 127V (NOM)	230V (CE)	220-240V
Dimmed loads			
Incandescent/halogen	●	●	●
Magnetic low-voltage	●	●	●
Electronic low-voltage	●	●	●
Fluorescent and LED (3-wire)	3F		FDBI-AU
Fluorescent and LED (EcoSystem®)			
Tu-wire® fluorescent	●		
Fluorescent and LED (0-10V)	TVM, TVI	TVM, TVI	TVM, TVI
Fluorescent and LED (PWM)	TVM, PWM	TVM	TVM, PWM
Fluorescent and LED (DALI)	TVM [1]	TVM [1]	TVM [1]
LED (2-wire forward adaptive)	●		
CFL/LED (screw-base)	● [2]	● [2]	● [2]
Neon/cold cathode*	●	●	●
Switched loads			
Non-dim lighting (loads above)	SW, TVI, PWM	TVI	TVI, PWM
HID	SW, TVI, PWM	TVI	TVI, PWM
Motor loads	SW, TVI, PWM	TVI	TVI, PWM
Fan loads (switched or speed control)	SW, TVI, PWM	TVI	TVI, PWM
Panel/module voltage	120V	220-240V (CE)	220-240V (CE)
Frequency	50/60Hz	50/60Hz	50/60Hz
Minimum load	10W	10W	10W
Maximum load per circuit	10A	8A	8A
Maximum load per module	16A	13A	13A

1 DALI broadcast only
2 Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with this module.

Power interfaces
- ● Compatible load control (no interfaces)

FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PWM: Pulse width modulation interface pg. 530
3F: 3-wire fluorescent power module pg. 516
PA: Phase adaptive power module pg. 514
SW: Switching power module pg. 520

 **Fan speed module**	 **Motor module**		 **Switching module**
Load voltages			
120V	120V	220-240V	120V, 110-127V, 127V (NOM), 230V (CE), 277V, 347V
Dimmed loads			
Switched loads			
	•	•	•
			•
	• (AC loads only)	• (AC loads only)	•
•			•
120V	120V	220-240V	100-277V (CE)
50/60Hz	50/60Hz	50/60Hz	50/60Hz
0.25A	—	—	—
2A	5A; 0.25HP	5A; 0.25HP	16A; 0.5HP (12V), 1.5HP (277V), 0.5HP (220-240V)
8A	16A	16A	(see per circuit rating)

ELVI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528

ELVI-CE: Electronic low-voltage interface (CE) pg. 524
PB-CE: Power booster (CE) pg. 522
TVM: Ten-volt module in panel

Primary controls

The main devices in a lighting control system that distribute commands to sub-controls, control interfaces and lighting loads.

Designer dimmer

POWERED BY
120V 110-127V 127V NOM 277V
FREQUENCY
434MHz

- Dimmers incorporate advanced features such as fade on/fade off, delay fade off, and rapid full on
- Remote dimmer available
- Available in 26 finishes
- Mounts in standard 1-gang U.S. backbox
- Can be mounted with other devices in multi-gang wallplate
- W: 2.94in (75mm)
  H: 4.69in (119mm)
  D: 1.25in (32mm)
  Profile: 0.31in (8mm)

Designer switch

POWERED BY
120V 110-127V 127V NOM 277V
FREQUENCY
434MHz

- Functions as a standard switch
- Remote switch available
- Available in 26 finishes
- Mounts in standard 1-gang U.S. backbox
- Can be mounted with other devices in multi-gang wallplate
- W: 2.94in (75mm)
  H: 4.69in (119mm)
  D: 1.25in (32mm)
  Profile: 0.31in (8mm)

Hybrid keypad

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

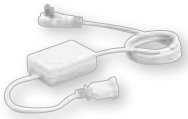
- Functions as a dimmer and keypad combined into a single device
- Fine tune scenes by pressing and holding raise/lower buttons
- Available in 26 finishes
- Mounts in standard 1-gang U.S. backbox
- Can be mounted with other devices in multi-gang wallplate
- W: 2.94in (75mm)
  H: 4.69 in (119mm)
  D: 1.25in (32mm)
  Profile: 0.31in (8mm)

Tabletop lamp dimmer

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

- Lamp dimmers incorporate advanced features such as fade on/fade off, delay fade off, and rapid full on
- Fine tune scenes by pressing and holding raise/lower buttons
- Available in Snow and Midnight
- Easy to install, no wiring required
- W: 2.94in (75mm)
  H: 4.69in (119mm)
  D: 1.25in (32mm)
  Profile: 0.31in (8mm)

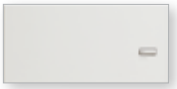
Plug-in dimming or appliance module



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

- Dimming module functions like a lamp dimmer, incorporating advanced control features
- Appliance module switches up 15 A of general purpose load
- Available in Snow and Midnight
- Modules can be hidden discreetly behind furniture
- W: 2.25in (57mm)
  H: 3.25in (83mm)
  Depth: 1.23in (31mm)

Wallbox power module



POWERED BY
120V 110-127V 127V NOM 220-240V
FREQUENCY
434MHz

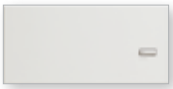
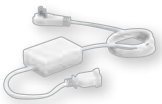
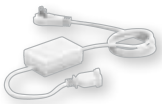
- Controls up to six zones of lighting
- Provides cost effective solution for lower wattage loads
- Available in White
- W: 9.44in (240mm)
  H: 4.69in (119mm)
  Depth: 2.00in (51mm)
  Profile: 0.38in (10mm)

HomeWorks QS primary control summary

	 **HomeWorks QS dimmer**		 **HomeWorks QS switch**	 **HomeWorks QS hybrid keypad**
Load voltages				
	120V, 110-127V, 127V (NOM)	277V	120V, 110-127V, 127V (NOM), 277V	120V, 110-127V, 127V (NOM)
Dimmed loads				
Incandescent/halogen	•	WBX		•
Magnetic low-voltage	•	WBX		•
Electronic low-voltage	•	WBX		PA
Fluorescent and LED (3-wire)	•	•		3F
Fluorescent and LED (EcoSystem®)				
Tu-wire® fluorescent	•			•
Fluorescent and LED (0-10V)	TVI	TVI		TVI
Fluorescent and LED (PWM)	PWM	PWM		PWM
Fluorescent and LED (DALI)				
LED (2-wire phase adaptive)	•			
CFL/LED (screw-base)	•*	WBX		PA
Neon/cold cathode	•			PA
Switched loads				
Non-dim lighting (loads above)			•	SW, TVI, PWM
HID			•	SW, TVI, PWM
Motor loads			•	SW, TVI, PWM
Fan loads			•	SW, TVI, PWM
Appliance loads				

* Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with the HomeWorks QS adaptive dimmer.

Power interfaces
- • Compatible load control (no interfaces)
- **WBX**: Phase adaptive power module with 3-wire input
- **PWM:** Pulse width modulation interface pg. 530
- **3F**: 3-wire fluorescent power module pg. 516
- **PA**: Phase adaptive power module pg. 514
- **SW:** Switching power module pg. 520

 **HomeWorks QS wallbox power module**			 **HomeWorks QS tabletop lamp dimmer**	 **HomeWorks QS plug-in dimming module**	 **HomeWorks QS plug-in appliance module**
Load voltages					
120V, 110-127V, 127V (NOM)	277V	220-240V	120V, 110-127V, 127V (NOM)	120V, 110-127V, 127V (NOM)	120V, 110-127V, 127V (NOM)
Dimmed loads					
•	PA	•	•	•	
•	PA	•	•	•	
PA	PA	ELVI-AU			
3F	3F	FDBI-AU			
•					
TVI	TVI	TVI			
PWM	PWM	PWM			
•					
PA	PA	PB-AU, ELVI-AU			
•		•			
Switched loads					
•	SW, TVI, PWM	•	•	•	•
SW, TVI, PWM	SW, TVI, PWM	TVI, PWM			•
SW, TVI, PWM	SW, TVI, PWM	TVI, PWM			•
SW, TVI, PWM	SW, TVI, PWM	TVI, PWM			•
					•

ELVI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528

FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PB-CE: Power booster (CE) pg. 522
TVM: Ten-volt module in panel

Primary controls (continued)

The main devices in a lighting control system that distribute commands to sub-controls, control interfaces and lighting loads.

GRAFIK Eye® QS main unit

POWERED BY
120V 110-127V 127V NOM 220-240V 230V 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
- Wireless units communicate via radio frequency to Pico® wireless controls, Radio Powr Savr™ sensors and Sivoia® QS Wireless shades (wired only models available)
- 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)

HomeWorks QS primary control summary (cont.)

GRAFIK Eye® QS main units

	Load voltages	
	120 V, 110-127 V, 127 V (NOM)	277 V
Dimmed loads		
Incandescent/halogen	•	PA
Magnetic low-voltage	•	PA
Electronic low-voltage	PA	PA
Fluorescent and LED (3-wire)	3F	3F
Fluorescent and LED (EcoSystem®)		
Tu-wire® fluorescent	•	
Fluorescent and LED (0-10 V)	TVI	TVI
Fluorescent and LED (PWM)	PWM	PWM
Fluorescent and LED (DALI)		
LED (2-wire forward adaptive)	•	
CFL/LED (screw-base)	PA	PA
Neon/cold cathode	•	
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
Main unit voltage	120-127 V/ 220-240 V	120-127 V/ 220-240 V
Frequency	50/60 Hz	50/60 Hz
Minimum capacity per zone	25	25
Maximum capacity per zone	800 W, 600 W (MLV)	800 W, 600 W (MLV)
Unit capacity	2000 W, 1600 W (MLV)	2000 W, 1600 W (MLV)

Power interfaces

• Compatible load control (no interfaces)
FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526
PWM: Pulse width modulation interface pg. 530
3F: 3-wire fluorescent power module pg. 516
PA: Phase adaptive power module pg. 514
SW: Switching power module pg. 520

GRAFIK Eye® QS main units		
Load voltages		
220-240V	230V (CE)	220-240V
Dimmed loads		
•	•	•
•	•	•
ELVI-AU	ELVI-CE	ELVI-AU
FDBI-AU		FDBI-AU
TVI	TVI	TVI
PWM		PWM
	•	
PB-AU, ELVI-AU	PB-CE, ELVI-CE	PB-AU, ELVI-AU
•	•	•
Switched loads		
•	•	•
TVI, PWM	TVI	TVI, PWM
TVI, PWM	TVI	TVI, PWM
TVI, PWM	TVI	TVI, PWM
120-127V/ 220-240V	230V (CE)	230V (CE)
50/60Hz	50/60Hz	50/60Hz
40	40	40
1200W, 960W (MLV)	500W, 400W (MLV)	500W, 400W (MLV)
3000W, 2400W (MLV)	3-zone: 1500W, 1200W (MLV) 4-zone: 2000W, 1600W (MLV) 6-zone: 2300W	3-zone: 1500W, 1200W (MLV) 4-zone: 2000W, 1600W (MLV) 6-zone: 2300W

ELVI-AU: Electronic low-voltage interface (AU) pg. 524
PB-AU: Power booster pg. 522
TVI: 0-10V interface pg. 528

ELVI-CE: Electronic low-voltage interface (CE) pg. 524
PB-CE: Power booster (CE) pg. 522

Primary controls (continued)

The main devices in a lighting control system that distribute commands to sub-controls, control interfaces and lighting loads.

Power module with EcoSystem® (DIN-rail)

POWERED BY
220-240V

- Provides control of two EcoSystem loops, up to 128 EcoSystem compatible devices
- EcoSystem technology available in fluorescent dimming ballasts, LED drivers and fixture modules
- DIN-rail mount
- W: 6.36 in (162 mm)
  H: 3.53 in (90 mm)
  D: 2.39 in (61 mm)

DALI power module (DIN-rail)

POWERED BY
220-240V 230V CE

- Provides control of two buses of DALI compliant digital addressable loads, up to 128 DALI compatible devices
- Each DALI loop can control a maximum of 16 zones
- DIN-rail mounted
- W: 6.36 in (162 mm)
  H: 3.53 in (90 mm)
  D: 2.39 in (61 mm)

Switching/0-10V power module (DIN-rail)

POWERED BY
220-240V 230V CE

- Controls up to 4 16A zones of lighting fixtures (switched relay or 0-10V dimming)
- DIN-rail mounted
- W: 6.36 in (162 mm)
  H: 3.53 in (90 mm)
  D: 2.39 in (61 mm)

Phase adaptive power module (DIN-rail)

POWERED BY
220-240V 230V CE

- Provides control of dimmable CFL/LED loads in addition to incandescent/halogen, electronic low-voltage, magnetic low-voltage, and neon cold cathode light sources
- DIN-rail mounted
- W: 8.50 in (216 mm)
  H: 3.54 in (90 mm)
  D: 2.99 in (76 mm)

Motor remote power module (DIN-rail)

POWERED BY
120-240 120-240 V (CE)

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

HomeWorks QS primary control summary (cont.)

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

	 **HomeWorks QS power module with EcoSystem (DIN-rail)**	 **HomeWorks QS switching power module (DIN-rail)**	 **HomeWorks QS Switching/0-10V power module (DIN-rail)**
Load voltages			
	220-240V, 230V (CE)	220-240V, 230V (CE)	220-240V, 230V (CE)
Dimmed loads			
Incandescent/halogen			
Magnetic low-voltage			
Electronic low-voltage			
Fluorescent and LED (3-wire)			
Fluorescent and LED (EcoSystem®)	●		
Tu-wire® fluorescent			
Fluorescent and LED (0-10V)			●
Fluorescent and LED (PWM)			
Fluorescent and LED (DALI)			
LED (2-wire phase adaptive)			
CFL/LED (screw-base)			
Neon/cold cathode*			
Switched loads			
Non-dim lighting (loads above)		●	●
HID		●	●
Motor loads			
Fan loads			
Power module voltage	220-240V (CE)	220-240V (CE)	220-240V (CE)
Frequency	50/60Hz	50/60Hz	50/60Hz
Maximum capacity per loop/zone	64 EcoSystem devices	16A; 1.5HP	16A; 50mA (0-10V) 1.5HP

Power interfaces
● Compatible load control (no interfaces)

PWM: Pulse width modulation interface pg. 530

 **HomeWorks QS phase adaptive power module (DIN-rail)**		 **HomeWorks QS DALI power module (DIN-rail)**	 **HomeWorks QS motor control power module (DIN-rail)**
Load voltages			
230 V (CE)	220-240 V	220-240 V, 230 V (CE)	220-240 V, 230 V (CE)
Dimmed loads			
•	•		
•	•		
•	•		
	FDBI-AU		
TVI	TVI		
	PWM		
		•	
•*	•*		
•	•		
Switched loads			
TVI	TVI, PWM		
TVI	TVI, PWM		
TVI	TVI, PWM		• (AC loads only)
TVI	TVI, PWM		
220-240 V (CE)	220-240 V (CE)	220-240 V (CE)	220-240 V (CE)
50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Zone 1: 800 W, 600 W (MLV/NCC), Zone 2-4: 500 W, 375 W (MLV/NCC)	Zone 1: 800 W, 600 W (MLV/NCC), Zone 2-4: 500 W, 375 W (MLV/NCC)	64 DALI devices	1.5 A

TVI: 0-10 V interface pg. 528

FDBI-AU: Fluorescent dimming ballast interface (AU) pg. 526

Sub-controls

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

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)

Pico® wireless control

POWERED BY
Battery

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

- Controls scenes or zones of light
- 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)

Architectural-style seeTouch keypad

POWERED BY
QS link,
1 PDU

BACKBOX
U.S. style

- Models available with 1-7 programmable buttons
- Available in insert or non-insert style
- Select models available with raise/lower buttons and infrared receiver
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- Available in 19 finishes
- W: 2.75 in (70 mm)
  H: 4.56 in (116 mm)
  D: 1.06 in (28 mm)
  Profile: 0.31 in (8 mm)

International seeTouch keypad

POWERED BY
QS link,
1 PDU

BACKBOX
Round or square

- Models available with 2-10 programmable buttons
- Select models available with raise/lower buttons and infrared receiver
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- Available in 12 finishes
- W: 3.38 in (86 mm)
  H: 3.38 in (86 mm)
  D: 1.00 in (25 mm)
  Profile: 0.25 in (6 mm)

Designer-style seeTouch wired keypad

POWERED BY
120V 110-127V 127V NOM

FREQUENCY
434MHz

- Models available with 1-7 programmable buttons
- Select models available with raise/lower buttons and infrared receiver
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- Available in 27 finishes
- W: 2.94in (75mm)
  H: 4.69in (119mm)
  D: 1.31in (33mm)
  Profile: 0.31in (8mm)

Designer-style seeTouch wireless keypad

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

FREQUENCY
434MHz

BACKBOX
U.S. style

- Models available with 1-7 programmable buttons
- Select models available with raise/lower buttons
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- Available in 27 finishes
- W: 2.94in (75mm)
  H: 4.69in (119mm)
  D: 1.31in (33mm)
  Profile: 0.31in (8mm)

Wireless tabletop keypad

POWERED BY
Battery or external transformer (9V DC)

FREQUENCY
434MHz

- Models available with 5,10 or 15 programmable buttons with raise/lower
- Select models available master on/off buttons
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions
- Available in Snow and Midnight
- W: 3.56in (90mm)
  H: 3.25in (83mm)
  Top Depth: 1.00in (25mm)
  Bottom Depth: 0.75in (19mm)

Dynamic keypad

POWERED BY
QS link 6 PDUs or external transformer (20-24VDC)

- Provides the functionality of multiple keypads in an easy to navigate, intuitive arrangement
- Includes a capacitive touch interface and three hard buttons
- Available in White and Black
- Mounts on wall using mounting frame
- W: 2.38in (60mm)
  H: 5.13in (130mm)
  Profile: 0.50in (13mm)

Sub-controls (continued)

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

seeTemp® wall control

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

- Provides control and monitoring of a single HVAC zone
- Can be placed at preferred control locations
- Celsius and Fahrenheit models available
- Available in 26 finishes
- W: 2.94 in (75 mm)
  H: 4.69 in (119 mm)
  D: 1.21 in (31 mm)
  Profile: 0.31 in (8 mm)

TouchPRO Wireless thermostat

POWERED BY
24 V AC low-voltage

FREQUENCY
434 MHz

- Designed by Honeywell and utilizes Lutron reliable Clear Connect radio frequency (RF) technology to allow seamless HVAC integration
- Installs like a conventional thermostat
- Available in White
- W: 6.56 in (167 mm)
  H: 4.94 in (125 mm)
  Profile: 1.44 in (37 mm)

Visor control transmitter

POWERED BY
Battery

FREQUENCY
390 MHz

- Allows lights , shades, HVAC and other equipment to be controlled from the car at a touch of a button
- Visor clip included
- Homelink compatible
- W: 3.25 in (83 mm)
  H: 1.25 in (32 mm)
  Profile: 0.75 in (19 mm)

Ballasts and drivers

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

EcoSystem ballast

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

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

EcoSystem H-Series ballast

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

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

EcoSystem ballasts for compact fluorescent lamps (CFL)

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

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

Hi-lume 3D ballast

POWERED BY
QS link 6 PDUs or external transformer (20-24VDC)

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

Ballasts and drivers (continued)

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

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 277V

Tu-wire ballast

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

POWERED BY
120V

Hi-lume A-Series LED driver

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

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

EcoSystem LED driver

- Continuous, flicker-free dimming from 100% to 1%
- Models available for LED light engines up to 25W, constant current or constant voltage
- Available with EcoSystem digital link

POWERED BY
220-240V 230V CE

Sensors

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

Wireless

Radio Powr Savr™ wireless occupancy/vacancy sensors

POWERED BY
Battery

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

- Sensor automatically turns lighting 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
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
- Available in White
- Diameter: 1.60 in (41 mm)
  Depth: 0.70 in (17 mm)

Wireless wall-mount temperature sensor

POWERED BY
Battery

FREQUENCY
434 MHz

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

Sensors (continued)

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

Wired

Wired LOS-C and LOS-W series occupancy sensors

POWERED BY
20 V DC from ESN, GRAFIK Eye QS main unit, power pack, or ballast/module with input or QS link, 2 PDUs

- Sensor automatically turns lighting scenes/zones on and/or off based on space occupancy
- Sensor technology options include passive infrared, 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)

Control interfaces

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

QS contact closure interface

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

- Provides five contact closure inputs and five contact closure outputs
- Allows integration with third-party equipment, such as motion/occupancy sensors, time clocks and movable walls
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

QS RS232/Ethernet interface

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

- Allows integration with a touchscreen, PC, A/V systems, or other digital equipment that supports RS232 communication, or TCP/IP communication over Ethernet
- Monitor lighting scenes, levels and shade positions
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

QS DMX512 output interface

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

- Allows control DMX512-controlled devices
- Zones can be mapped to either a single DMX512 channel or to three separate DMX512 channels
- W: 4.26 in (108 mm)
  H: 5.26 in (134 mm)
  D: 1.06 in (27 mm)

HVAC controller

POWERED BY
24 V AC low-voltage

FREQUENCY
434 MHz

- Connects to and controls mechanical HVAC equipment
- Can utilize either a wireless or wired temperature sensor
- Provides the ability to adjust heating and cooling systems any time of the day
- W: 4.25 in (108 mm)
  H: 5.25 in (133 mm)
  Depth: 1.06 in (27 mm)

Control interfaces (continued)

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

Visor control receiver

POWERED BY
External transformer (9 V DC)

FREQUENCY
434 MHz

- Allows the control of lights, shades, HVAC and other equipment from the visor control transmitter
- Includes 2 contact closure inputs and four contact closure outputs
- W: 4.25 in (108 mm)
  H: 5.25 in (133 mm)
  D: 1.06 in (27 mm)

Shades

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

Sivoia QS wired/wireless shades

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
- Wired shades communicate via the QS link; wireless shades communicate via Lutron® reliable Clear Connect® RF technology

Sivoia QS power supply individual and smart panel)

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

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

Insulating Honeycomb shade power

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

- Universal input voltage 120-240 V @ 50/60 Hz
- Electronic over-current and over-temperature protection
- Class 2 12 V 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

HomeWorks QS is programmed through PC-based software.

HomeWorks QS software

- Design and program the system through this PC-based software
- Provides commissioning support through communication diagnostics
- Create customized report packages—bill of material, load schedule, wiring and engraving

Home Control +

- Provides the ability to control and monitor your HomeWorks QS system right from your mobile device—at home or while away
- Use the app to control and monitor lights, shades and HVAC
- Full two-way functionality allows the app to update in real time as you change the lights in the space.

The processor is the heart of the lighting control system providing intelligence and offering a centralized connection point for control and communication. The processor communicates with all components of the system, including the primary controls, power panels and control interfaces

Whole building

Quantum®
light management hub (QP2)
pg. 146

Quantum®
light management hub (QP3)
pg. 150

HomeWorks QS processor
pg. 153

HomeWorks QS module interface
pg. 156

HomeWorks QS hybrid repeater
pg. 155

Shown above: Quantum light management hub (QP2) (QP2-2P8CSE-120)

Direct lighting loads*

- Fluorescent (EcoSystem®)
- LED (EcoSystem)

* Quantum bus supply/EcoSystem loops available in 120V and 220-240V (non-CE) models only, not available in 230V (CE) models.

Features and capacities

- Provides a centralized connection point for EcoSystem ballasts/drivers/modules,* dimming and switching panels and Lutron QS devices, including Energi Savr Node™ modules, GRAFIK Eye® QS main units, and Sivoia® QS shades
- Models available for 120V, 230V (CE) and 220-240V (non-CE)
- Contains up to two Quantum processors with two links each that can be individually configured to communicate with:
  - Quantum bus supply* (limited to one link per hub—Link A)
  - Lutron power panels
  - Lutron QS devices
- Each hub supports up to eight internal EcoSystem loops, (two per Quantum bus supply*); each loop can have a combination of 64 EcoSystem ballasts, drivers, and modules, plus a maximum of 16 daylight sensors, 32 occupancy sensors, and 64 infrared (IR) devices
- Designed to control, manage and monitor lighting and shade systems in a building or a whole campus
- Supports both astronomic and time-of-day events to automatically control the lights and shades in the system
- Allows for simple reconfiguration of a space without rewiring

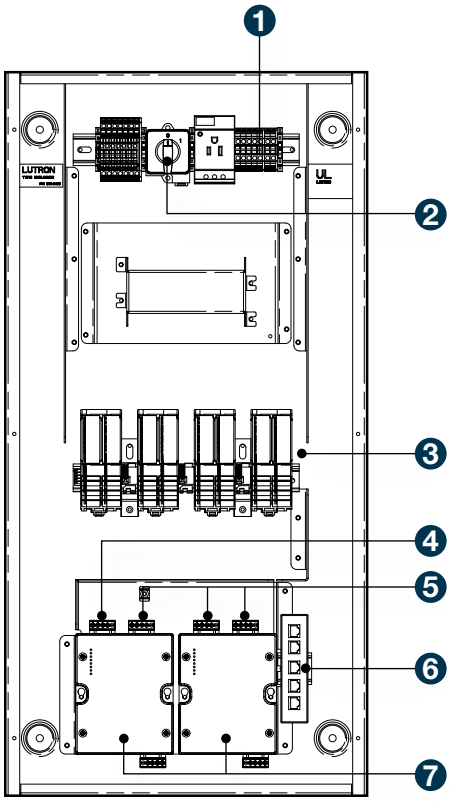
Dimensions and mounting

- Width: 15.75in (400mm)
  Height: 31.50in (800mm)
  Depth: 5.81in (148mm)
- Surface mount

Communication and wiring

- Ability to connect to additional Quantum light management hubs (QP2 or QP3)
- Light management hubs communicate via Ethernet
- EcoSystem loop* may be wired NEC Class 1 or IEC PELV/NEC Class 2
- QS and power panel links are wired low-voltage IEC PELV/NEC Class 2
- Link B, C, and D each supply 32 power draw units to the QS link

Explanation of features

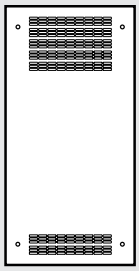


Quantum light management hub (QP2) with cover removed

	Features
1 Line voltage input	• 120V, 230V (CE) or 220-240V (non-CE) • Normal/emergency feed
2 Power panel switch	• Disconnects power to all components in the hub
3 Quantum bus supplies	• Up to four modules, two EcoSystem loops per module maximum
4 Factory configured Quantum bus supply link	• Link A • If no Quantum bus supply link can be configured in field to power panel or Lutron QS • Supplies no power draw units (PDUs)
5 Configurable links	• Power panel or Lutron QS
6 Accessory device	• 5-port unmanaged Ethernet port
7 Quantum processor	• Two maximum

Download specification submittal – 120V
Download specification submittal – 240V
Download specification submittal – 230V (CE)
Download high resolution product image

Available models



Quantum light
management hub (QP2)

Model numbers

Quantum light management hub (QP2)
120 V, normal / emergency feeder
50 / 60 Hz 15 A

No Quantum processor, no EcoSystem loop	QP2-0P0CSE-120
1 Quantum processor no EcoSystem loop	QP2-1P0CSE-120
1 Quantum processor 2 EcoSystem loops	QP2-1P2CSE-120
1 Quantum processor 4 EcoSystem loops	QP2-1P4CSE-120
1 Quantum processor 6 EcoSystem loops	QP2-1P6CSE-120
1 Quantum processor 8 EcoSystem loops	QP2-1P8CSE-120
2 Quantum processors no EcoSystem loop	QP2-2P0CSE-120
2 Quantum processors 2 EcoSystem loops	QP2-2P2CSE-120
2 Quantum processors 4 EcoSystem loops	QP2-2P4CSE-120
2 Quantum processors 6 EcoSystem loops	QP2-2P6CSE-120
2 Quantum processors 8 EcoSystem loops	QP2-1P8CSE-120

Compatible with the Quantum® system.

Model numbers

Quantum light management hub (QP2)
230 V (CE), normal / emergency feeder
50 / 60 Hz 10 A

1 Quantum processor, no EcoSystem loop	QP2-1P0CSE-230
2 Quantum processors no EcoSystem loop	QP2-2P0CSE-230

Compatible with the Quantum® system.

Quantum light management hub (QP2)
220-240 V (non-CE), normal / emergency feeder
50 / 60 Hz 10 A

No Quantum processor, no EcoSystem loop	QP2-0P0CSE-240
1 Quantum processor no EcoSystem loop	QP2-1P0CSE-240
1 Quantum processor 2 EcoSystem loops	QP2-1P2CSE-240
1 Quantum processor 4 EcoSystem loops	QP2-1P4CSE-240
1 Quantum processor 6 EcoSystem loops	QP2-1P6CSE-240
1 Quantum processor 8 EcoSystem loops	QP2-1P8CSE-240
2 Quantum processors no EcoSystem loop	QP2-2P0CSE-240
2 Quantum processor 2 EcoSystem loops	QP2-2P2CSE-240
2 Quantum processor 4 EcoSystem loops	QP2-2P4CSE-240
2 Quantum processor 6 EcoSystem loops	QP2-2P6CSE-240
2 Quantum processor 8 EcoSystem loops	QP2-1P8CSE-240

Compatible with the Quantum® system.

Shown above: Quantum light management hub (QP3) (QP3-1PL-100-240)

Features and capacities

- Provides a centralized connection point for dimming and switching panels, and Lutron QS devices, including Energi Savr Node™ modules, GRAFIK Eye® QS main units, and Sivoia® QS shades
- Model available for 100-240 V; CE rated
- Contains one Quantum processor with two links that can be individually configured to communicate with:
  - Lutron power panels
  - Lutron QS devices
- Designed to control, manage, and monitor lighting and shade systems in a building or a whole campus
- Enables a Quantum system to cost-effectively scale from a single-floor to a whole campus
- Supports both astronomic and time-of-day events to automatically control the lights and shades in the system
- Allows for simple reconfiguration of a space without rewiring

Dimensions and mounting

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

Communication and wiring

- Ability to connect to additional Quantum light management hubs (QP2 or QP3)
- Light management hubs communicate via Ethernet
- QS and power panel links are wired low-voltage IEC PELV/NEC Class 2
- Link A and B each supply 32 power draw units to the QS link

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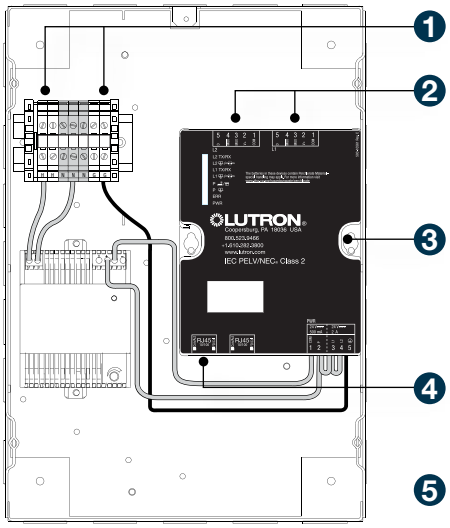
Download high resolution product image

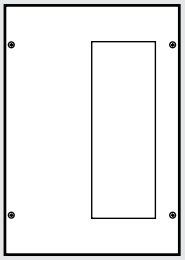
Explanation of features



Quantum light management hub (QP3) with cover removed

	Features
1 Line voltage input	• 100–240V • Normal/emergency feed
2 Configurable links	• Link 1 and 2 • Power panel or Lutron QS
3 Ethernet port	• 10/100 full duplex for connection to Quantum server
4 Quantum processor	• One processor per hub, two configurable links per processor
5 Power supply	• 24VDC, 2A low voltage • IEC PELV/NEC Class 2 wiring

Available models



Quantum light
management hub (QP3)

Model numbers

Quantum light management hub (QP3)
100–240 V, normal / emergency feeder
50 / 60 Hz 1 A

1 Quantum processor	QP3-1PL-100-240

Compatible with the Quantum system.

Shown above: HomeWorks QS processor (HQP6-2)

Features and capabilities

- Provides control and communication to HomeWorks QS systems components
- Each processor has two links that can be individually configured to communicate with:
  - HomeWorks/HomeWorks QS power panels (16 addresses/256 zones)
  - HomeWorks QS wired devices—QS link (99 devices/512 zones)
  - HomeWorks QS wireless devices—RF link (99 devices/100 zones)
- All processors on a project must be connected to a single network; the same network connected to the HomeWorks QS software and all integration equipment
- Requires 24 V DC QS power supply for operation

Dimensions and mounting

- Width: 4.25 in (108 mm)
  Height: 5.25 in (133 mm)
  Depth: 1.06 in (27 mm)
- Mounts in 21 in or 14 in HomeWorks QS low-voltage enclosure or in 8-module power panel

Communication and wiring

- Two built-in ethernet links allow communication to HomeWorks QS software, integration with third-party systems, and between multiple processors
- Power panel and QS wired device links are wired low-voltage IEC PELV/NEC Class 2
- Uses eight power draw units

Download specification submittal
Download high resolution product image

Explanation of features

HomeWorks QS processor

	Features
1 Ethernet connections	• Two RJ45 Ethernet connections with built-in switch
2 Power input	• One 5-pin removable terminal block
3 Links	• Two 5-pin removable terminable blocks

HomeWorks QS processor top view

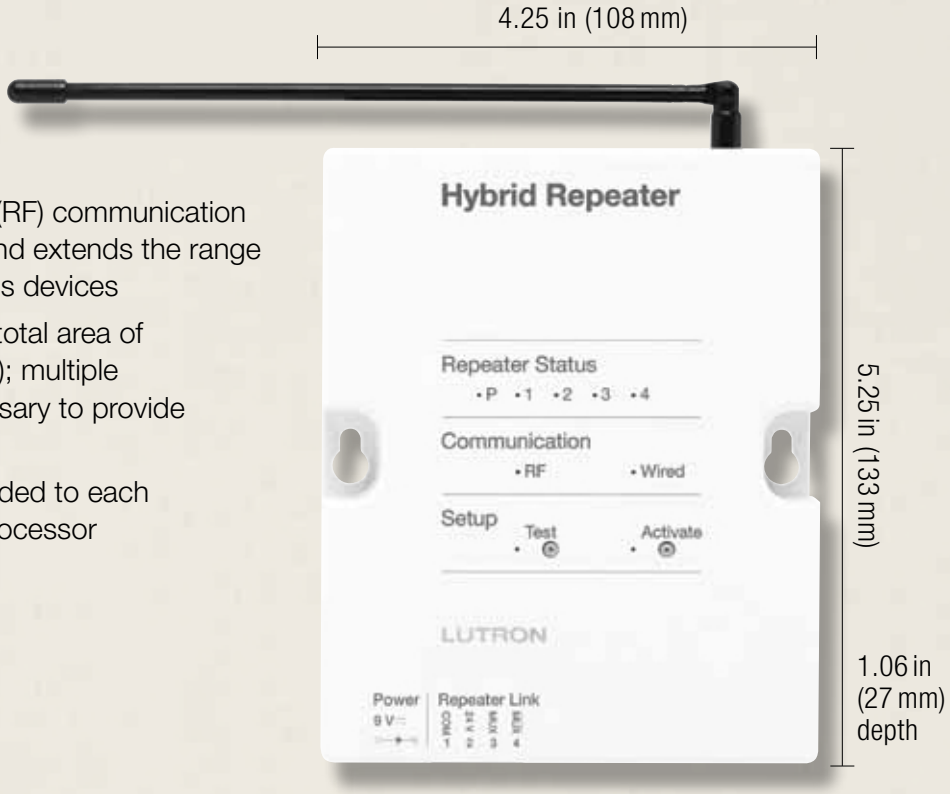
HomeWorks QS processor bottom view

Model numbers

Processor

QS processor	HQP6-2

Compatible with HomeWorks QS system.



Shown above: HomeWorks QS hybrid repeater (HQR-REP-120)

Features and capacities

- Adds wireless radio frequency (RF) communication to a HomeWorks QS system and extends the range of the RF signals of the wireless devices
- Each hybrid repeater covers a total area of approximately 2,500 ft² (232 m²); multiple hybrid repeaters may be necessary to provide adequate coverage
- Up to four repeaters can be added to each RF link of a HomeWorks QS processor
- Available in White (WH)

Dimensions and mounting

- Width: 4.25 in (108 mm)
  Height: 5.25 in (133 mm)
  Depth: 1.06 in (27 mm)
- Plug-in transformer with a 5 ft (1.5 m) cord provided or can be powered from a link
- Mount on wall, ceiling or level surface

Communication and wiring

- First hybrid repeater of the RF link communicates with the HomeWorks QS processor via low-voltage IEC PELV/NEC Class 2 wire
- Subsequent repeaters may be wired on the link or may communicate to the processor via RF
- Communicates via Lutron® reliable Clear Connect® RF technology
- Operates at 434 MHz, 434 limited channel MHz, 865 MHz, 868 MHz or 868 limited channel MHz
- Each repeater has an RF range of 30 ft (9 m) between repeater and wireless devices or 60 ft (18 m) between repeaters
- Uses three power draw units when powered from a link

Model numbers

434 MHz	HQR-REP-120
434 MHz (Brazil)	HQR-REP-BA
434 limited channel MHz	HQQ-REP
865 MHz	HQN-REP
868 MHz	HQK-REP
868 limited channel MHz	HQM-REP

Download specification submittal
Download high resolution product image

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.

Shown above: HomeWorks QS module interface (HWI-MI-120)

Features and capacities

- Controls up to eight remote power modules (RPMs) in a remote power panel enclosure
- Manages the communication between the RPMs and the HomeWorks QS processor
- Provides a manual override button, allowing programmed lighting scenes to be activated from a designated override switch
- Models available fro 120 V and 230 V (CE) @ 50/60 Hz
- Compatible with HomeWorks QS remote power modules; dimming, switching, adaptive dimming, switching, fan speed and motor

Dimensions and mounting

- Width: 3.00 in (76 mm)
  Height: 13.13 in (333 mm)
  Depth: 3.63 in (92 mm)
- Mounts in a HomeWorks QS remote power feed-through or breaker panel

Communication and wiring

- Communicates via low-voltage IEC PELV/NEC Class 2 wire to the HomeWorks QS processor on the power panel link
- Each power panel link on a HomeWorks QS processor can have up to 16 addresses; each module interface counts as one address toward the limit

Model numbers

Module interface	
120 V	HWI-MI-120
230 V (CE)	HWI-MI-230

Compatible with HomeWorks QS system.

Download specification submittal

Power panels

Power panels are available as dimming and switching panels to provide architectural lighting control of premiere spaces, buildings, and campus environments.

Softswitch128® switching panel
pg. 166

LCP128™ dimming panel
pg. 170

LCP128 spec-grade dimming panel
pg. 175

LP dimming panel
pg. 182

XP switching panel
pg. 178

GP dimming panel
pg. 185

Power panels

Custom combination panel (CCP)
pg. 189

HomeWorks QS remote power feed-through panel
pg. 197

DCI dimming panel
pg. 194

HomeWorks QS remote power panel with breakers
pg. 199

HomeWorks QS adaptive dimming module
pg. 201

HomeWorks QS relay remote module
pg. 203

HomeWorks QS fan remote power module
pg. 205

HomeWorks QS dimming remote power module
pg. 202

HomeWorks QS motor remote power module
pg. 204

HomeWorks QS spec grade panel
pg. 206

Panel type		Voltage	Panel feed type	Number of circuits
Softswitch128® switching pg. 166		120 V/277 V, 230 V (CE), 220-240 V, 347 V 50/60 Hz	Feed-through Main lugs Main breaker	4-48 (feed-through) 4-42 (panels with breakers)
LCP128™ dimming pg. 170		120 V, 230 V (CE), 220-240 V 50/60 Hz	Feed-through Main lugs Main breaker Isolation switch	4-36 (1-9 modules)
LCP128 spec grade dimming pg. 175		120 V, 277 V 50/60 Hz	Feed-through Main lugs Main breaker Dual tap main lugs	8-24
XP switching pg. 178		120 V, 230 V (CE), 220-240 V, 277 V, 347 V 50/60 Hz	Feed-through Main lugs Main breaker	4-48 (feed-through) 4-42 (panels with breakers)
LP dimming pg. 182		120 V, 230 V (CE), 220-240 V 50/60 Hz	Main lugs Main breaker Isolation switch	4-32 (1-8 modules)

	Thermal magnetic circuit breaker	Load rating	Load type*	Lamp noise suppression	Compatible system
	1 per circuit (main lug panels only)	16 A continuous/ circuit	INC, MLV, ELV, NCC, FL, LED, HID, Motor	No choke required	Softswitch128
	1 per module 1 per circuit (switching modules only)	Load rating based on module, see pg. 171 for more details	INC, MLV, ELV, NCC, FL, LED, CFL, Non-dim, HID, Motor, Fan	High-grade choke	LCP128
	1 per circuit	16 A continuous/ circuit	INC, MLV, ELV, NCC, FL, LED, CFL, Non-dim, HID, Motor	Highest-grade choke	LCP128
	1 per circuit (main lug panels only)	16 A continuous/ circuit	INC, MLV, ELV, NCC, FL, LED, HID, Motor	No choke required	GRAFIK Eye® 4000 Quantum®
	1 per module	16 A continuous/ module (120 V and 220-240 V) 13 A continuous module (230 V CE)	INC, MLV, ELV, NCC, FL, LED, CFL, Non-dim HID, Motor	High-grade choke	GRAFIK Eye 4000 Quantum

* Control interface may be required to control loads listed

Load type key:

INC=incandescent/halogen, MLV=magnetic low-voltage, ELV=electronic low-voltage, FL=fluorescent (3-wire, Tu-wire, 0-10 V, PWM, DALI), NCC=neon/cold cathode, LED=LED (3-wire, 0-10 V, PWM, DALI, 2-wire phase adaptive), CFL=CFL/LED (screw-base), Non-dim=Non-dim lighting, HID=HID, Motor=Motor loads, Fan=Fan speed control

Panel type		Voltage	Panel feed type	Number of circuits
GP dimming pg. 185		100 V, 120 V, 230 V (CE), 220-240 V, 277 V 50/60 Hz	Feed-through Main lugs Main breaker Dual tap main lugs Isolation switch	3-144
DCI dimming panel pg. 194		120 V 50/60 Hz	Main breaker	1-3
Custom combination dimming panel pg. 189		120 V, 277 V (CE), 220-240 V 50/60 Hz	Main lugs Isolation switch	4-36 (1-9 modules)
Remote power feed-through panel with modules pg. 197		120 V, 220 V (CE), 220-240 V 50/60 Hz	Feed-through	4-32 (1-8 modules)
Remote power panel with breakers and modules pg. 199		120 V, 230 V (CE), 220-240 V 50/60 Hz	Feed-through Main lugs (120 V only)	4-32 (1–8 modules)
HomeWorks QS spec grade dimming pg. 206		120 V, 230 V (CE), 220-240 V 50/60 Hz	Feed-through Main lugs Main breaker Dual tap main lugs Isolation switch	8-24

	Thermal magnetic circuit breaker	Load rating	Load type	Lamp noise suppression	Compatible system
	1 per circuit	16A continuous/ circuit	INC, MLV, ELV, NCC, FL, LED, CFL, Non-dim, HID, Motor	Highest-grade choke	GRAFIK Eye 4000 Quantum
	1 per circuit	1200W continuous/circuit	INC	No choke inaudible	GRAFIK Eye 4000 Quantum
	1 per module; 1 per circuit (switching modules only)	Load rating based on module, see pg. 190 for more details	INC, MLV, ELV, NCC, FL, LED, CFL, Non-dim, HID, Motor, Fan	High-grade choke	GRAFIK Eye 4000 Quantum
	N/A	Load rating based on module, see pgs. 201-205 for more details	INC, MLV, ELV, NCC, FL, LED, CFL, Non-dim, HID, Motor, Fan	High-grade choke	HomeWorks QS
	N/A	Load rating based on module, see pgs. 201-205 for more details	INC, MLV, ELV, NCC, FL, LED, CFL, Non-dim, HID, Motor, Fan	High-grade choke	HomeWorks QS
	1 per circuit	16A continuous/ circuit	INC, MLV, ELV, NCC, FL, LED, CFL, Non-dim, HID, Motor	Highest-grade choke	HomeWorks QS

* Control interface may be required to control loads listed

Load type key:

INC=incandescent/halogen, MLV=magnetic low-voltage, ELV=electronic low-voltage, FL=fluorescent (3-wire, Tu-wire, 0-10V, PWM, DALI), NCC=neon/cold cathode, LED=LED (3-wire, 0-10V, PWM, DALI, 2-wire phase adaptive), CFL=CFL/LED (screw-base), Non-dim=Non-dim lighting, HID=HID, Motor=Motor loads, Fan=Fan speed control

Shown above: Standard size Softswitch128 switching panel (XPS24-1204ML-20)

Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Electronic low-voltage
- Neon/cold cathode
- Fluorescent
- LED
- HID
- Motor loads
- Fan loads
- 15 A receptacles

Model numbers

Rough-in panels-feed-through*

Empty tub	
Mini-size, 8-16 circuits	TUB16
Standard size, 20-48 circuits	TUB48

Base plate, 120/277 V	
8 circuits	SINT8-FT
12 circuits	SINT12-FT
16 circuits	SINT16-FT
20 circuits	SINT20-FT
24 circuits	SINT24-FT
28 circuits	SINT28-FT
32 circuits	SINT32-FT
36 circuits	SINT36-FT
40 circuits	SINT40-FT
44 circuits	SINT44-FT
48 circuits	SINT48-FT

Compatible with the Softswitch128 (XPS) system

* Rough-in panels are ordered and delivered as two parts: empty tub and pre-wired base plate.

Download specification submittal for 120 V
Download specification submittal for 230 V
Download specification submittal for 220-240 V

Features and capacities

- Switching panel for up to 48 circuits with integrated astronomical time clock and Liquid Crystal Display (LCD) controller for programming
- Switching circuits rated for 16 A
- Models available for 120 V/277 V, 230 V (CE), 220-240 V, and 347 V at 50/60 Hz[1]
- All voltages indicated are phase-to-neutral
- LCD controller mounted in the panel, provides easy-to-use, menu-based control and configuration of the entire system
- Two user-configurable contact closure inputs built into the controller provide for easy interface with occupancy sensors
- Patented Softswitch® technology eliminates arcing at mechanical contacts when loads are switched, extending relay life to an average of 1,000,000 cycles
- Astronomical time clock provides automated selection of lighting scenes
- Feed-through (120 V/277 V only), branch circuit breaker, and rough-in panels are available
- Rough-in panels are ordered and delivered as two parts: an empty tub and a pre-wired baseplate that includes switching modules, terminal blocks, LCD controller/time clock, power supply and panel cover
- Normal or emergency panel capability[2]

Dimensions and mounting

- **Mini:**
  Width: 15.88 in (403 mm)
  Height: 24.50 in (622 mm)
  Depth: 4.21 in (107 mm)
- **Standard:**
  Width: 15.88 in (403 mm)
  Height: 59.50 in (1511 mm)
  Depth: 4.21 in (107 mm)
- **Large:**
  Width: 23.50 in (597 mm)
  Height: 63.50 in (1613 mm)
  Depth: 6.30 in (160 mm)
- **Extra large:**
  Width: 23.50 in (597 mm)
  Height: 82.50 in (2096 mm)
  Depth: 6.30 in (160 mm)
- Mini XP and standard size panels can be surface or recess mounted
- Large and extra large panels can be surface mounted only

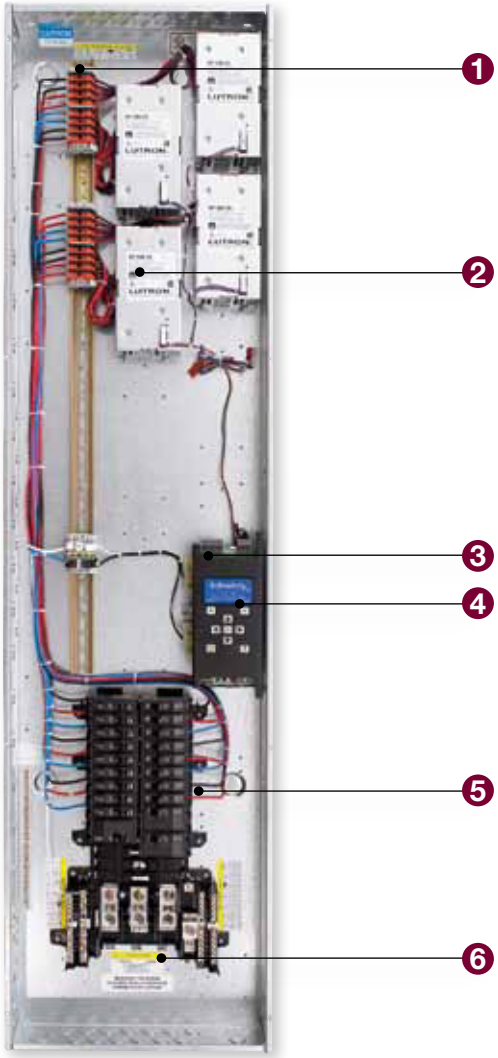
Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 standard wired communication connects panel to other system components
- Line (mains) voltage: feed and load wiring only, no other wiring or assembly required
- Connect up to 16 Softswitch128 panels for up to 512 switched outputs

[1] Please contact Lutron for details on 480 V, phase-to-phase switching

[2] Standard size feed-through panels are available with internal separation allowing emergency circuits to be wired into the same enclosure, please contact Lutron for more details

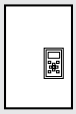
Explanation of features



Standard size Softswitch128 switching panel with cover removed

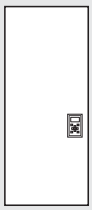
Feature	
1 Terminal blocks	• For Lighting load circuit connections
2 Switching modules	• Patented Softswitch® circuit eliminates arcing at mechanical contacts when loads are switched, extending relay life to an average of 1,000,000 cycles
3 Low-voltage IEC PELV/NEC Class 2 wiring	• Connection for communication to other system components
4 LCD controller	• Menu based control and configuration of the entire system • Two integrated user-configurable contact closure inputs • Integrated astronomical time clock
5 Branch circuit breakers	• Each circuit is protected by thermal magnetic breakers
6 Power feed wiring	• 120V, 277V, 230V (CE), 220-240V, or 347V • Main breaker feeds (120V only) or standard main lug

Available models

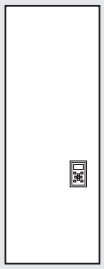


Mini panel

Standard panel



Large panel



Extra large panel

How to build a standard model number[1]

XPS24 - 1204ML - 20

- 24 — Number of circuits
- 1 — Voltage
- 4 — Feed type
- ML — Panel type
- 20 — Branch circuit breaker rating

Number of circuits:

8 for 8 circuits
12 for 12 circuits
16 for 16 circuits
20 for 20 circuits
24 for 24 circuits
28 for 28 circuits
32 for 32 circuits
36 for 36 circuits
40 for 40 circuits
42 for 42 circuits
44 for 44 circuits (feed-through only)
48 for 48 circuits (feed-through only)

Voltage:

Omit for 120/277 V dual-voltage
120 for 120 V
277 for 277 V

Feed type[2]:

FT for feed-through (120/277 V dual-voltage only)
4 for 3-phase, 4-wire (120 V or 277 V only)

Panel feed[3]:

Omit for feed-through.
ML for main lugs

Branch circuit breaker rating:

Omit for feed-through.
20 for 20 A branch circuit breakers[4]

Compatible with the Softswitch128 system

[1] Please contact Lutron for availability and assistance specifying appropriate model numbers for 230 V (CE), 220-240 V, 347 V, and 480 V panels.

[2] 1-phase 3-wire (split phase) panel feed option available, please contact Lutron for information.

[3] Main breaker panel feed option available for 120 V, please contact Lutron for more information

[4] 20 A branch circuit breakers have a 16 A continuous load rating.

Shown above: Standard size LCP128 dimming panel

Direct lighting loads

(requires modules to control loads, see pg. 171 for module information)

- Incandescent/halogen
- Magnetic low-voltage
- Electronic low-voltage
- Neon/cold cathode
- Tu-wire fluorescent
- LED (2-wire forward phase)
- CFL/LED (screw-base)[1]
- Non-dim lighting
- AC motors loads
- Motor loads
- Fan loads

Lighting loads requiring an interface

- Fluorescent/LED (3-wire)
- Fluorescent/LED (0-10 V)[2]
- Fluorescent/LED (PWM)[2]

Features and capacities

- Combination dimming and switching panel for up to 36 circuits with integrated astronomical time clock and Liquid Crystal Display (LCD) controller for programming
- Models available for 120 V, 230 V (CE) or 220-240 V at 50/60 Hz
- All voltages indicated are phase-to-neutral
- LCD controller mounted in the panel provides easy-to-use, menu-based control and configuration of the entire system
- Two user-configurable contact closure inputs built into the controller provide for easy interface with occupancy sensors

[1] Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with the adaptive dimming module.

[2] 0-10 V and PWM ballasts and drivers may also be controlled by adding 10-volt module (TVM) to panel. TVM will also allow control of DALI ballasts and drivers with broadcast commands only. Please contact Lutron for more information if control of these loads are required.

Download specification submittal for all models
Download specification submittal for 220-240 V

- Astronomical time clock provides automated selection of lighting scenes
- Provides square law dimming curves for smooth linear control specifically for each light source
- Lighting levels remain constant throughout changes in power line conditions with Lutron patented RTISS filter circuit
- Feed-through or branch circuit breaker panels are available
- Modules required to control listed load types, choose module based on load type and control required:

Dimming:
- Incandescent/halogen, magnetic low-voltage, electronic low-voltage[1], neon/cold cathode, CFL/LED (screw-base)[1], 2-wire fluorescent, 3-wire fluorescent[1], 3-wire LED[1], 0–10V fluorescent[1], 0–10V LED[1], PWM fluorescent[1], PWM LED[1] or non-dim lighting
- 1-, 2-, or 4-circuits (1- and 2-circuits 120V only); 16A per module (120V, 220-240V), 13A per module/10A per circuit (230V CE)

Electronic low-voltage (230V CE/220-240V only):
- Incandescent/halogen, electronic low-voltage, or CFL/LED (screw-base)[1]
- 4-circuits; 16A per module/10A per circuit

Adaptive dimming:
- Incandescent/halogen, magnetic low-voltage, electronic low-voltage, neon/cold cathode, CFL/LED (screw-base)[2], 2-wire fluorescent, 3-wire fluorescent[1], 3-wire LED[1], 0–10V fluorescent[1], 0-10V LED[1], PWM fluorescent[1], PWM LED[1] or non-dim lighting[1]
- 4-circuits; 16A per module/10A per circuit (120V), 13A per module/8A per circuit (230V CE, 220-240V)

Switching:
- Non-dim lighting, motor loads or 15A receptacles
- Four circuits; 16A per circuit

Quiet fan speed control (120V only):
- Ceiling fan, four speed
- Four circuits; 8A per module, 2A per circuit

Motor:
- AC motor and non-dim incandescent lighting
- 4-circuits; 16A per module, 5A per circuit

10-volt (TVM)[3]:
- 0-10V fluorescent, 0–10V LED, PWM fluorescent, PWM LED, DALI fluorescent, or DALI LED
- Two consecutive circuits; 50mA per channel, 750mA per system

Dimensions and mounting

- **Mini:**
  Width: 15.88in (403mm)
  Height: 24.50in (622mm)
  Depth: 4.21in (107mm)

  Standard:
  Width: 15.88in (403mm)
  Height: 59.50in (1511mm)
  Depth: 4.21in (107mm)
- Surface or recess mounted

Communication and wiring

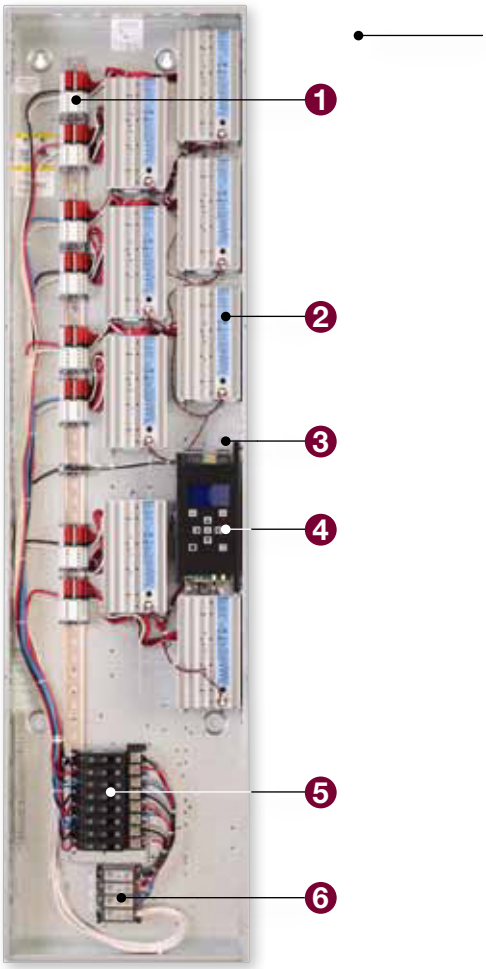
- Low-voltage IEC PELV/NEC Class 2 standard wired communication connects panel to other system components
- Line (mains) voltage: feed and load wiring only, no other wiring or assembly required
- Connect up to eight panels (standard and/or spec grade) for up to 128 dimmed/switched outputs

[1] Interface required

[2] Reverse phase only. Forward phase loads will require a power booster for proper dimming.

[3] One dimming or switching module must be present for every two TVMs included in panel

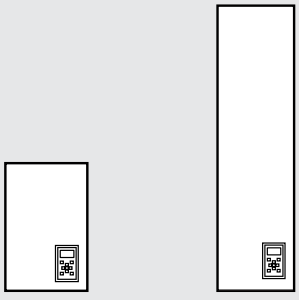
Explanation of features



Standard size LCP128 dimming panel with cover removed

Feature	
1 Terminal blocks	• Lighting load circuit connections
2 Modules	• Choose module based on load type and control required
3 Low-voltage IEC PELV/NEC Class 2 wiring	• Connection for communication to other system components
4 LCD controller	• Menu based control and configuration of the entire system • Two integrated user-configurable contact closure inputs • Integrated astronomical time clock
5 Branch circuit breakers	• Each input circuit is protected by thermal magnetic breakers
6 Power feed wiring	• 120V, 230V (CE), or 220-240V • Main breaker feeds (120V only) or standard main lug

Available models



Mini panel

Standard panel

How to build a 120V model number[1]

LCP - 2X2D1A8T - 1204ML - 20

- 2X2D1A8T: Module (quantity and type)
- 1204: Voltage, Feed type, Panel feed
- 20: Branch circuit breaker rating

Module (quantity and type):
_X_S_D_Q_A_M_F_T
List modules in the order shown above. Insert the quantity before each module code. Omit codes for modules not used in panel. See Note at right for limits on numbers of modules per panel.
X for 4-circuit switching (relay) (XP)
S for 1-circuit dimming
D for 2-circuit dimming
Q for 4-circuit dimming
A for 4-circuit adaptive dimming
M for 4-circuit motor
F for 4-circuit quiet fan speed
T for 0-10V (TVM)

Voltage:
120 for 120V

Feed type:
FT for feed-through
3 for 1-phase, 3-wire (split phase)
4 for 3-phase, 4-wire

Panel feed[2]:
Omit for feed through
ML for main lugs

Branch circuit breaker rating:
Omit for feed-through
20 for 20A branch circuit breakers

Compatible with the LCP128 system

Note:
Module quantities are limited as follows (TVMs do not count toward maximum quantity):

Standard-Size Branch Circuit Breaker panels:
Max. # in panel—9
Max. # with TVMs—8
Max. # with XP modules—7
Max. # with XP modules and TVMs—5
Max. # of TVMs—12

Standard-Size Feed-Through panels:
Max. # in panel—9
Max. # with TVMs—8
Max. # of TVMs—12

Mini-Size Branch Circuit Breaker panels (no XP modules):
Max. # in panel—3

Mini-Size Feed-Through panels:
Max. # in panel (with XP modules)—3
Max. # in panel (all XP modules)—4

[1] Model number information provided for general use only. Please contact Lutron for availability and assistance specifying appropriate model numbers.
[2] Main breaker panel feed option available for 120V, please contact Lutron for more information
[3] 20A branch circuit breakers have a 16A continuous load rating

How to build a 230V (CE) or 220-240V model number*

CCP - 2X1U1E1A6T - 2304IS - CE - LCP

- 2X1U1E1A6T: Module (quantity and type)
- 2304IS: Voltage, Feed type, Panel feed
- CE: Suffix

Module (quantity and type):
_X_U_E_A_M_T
List modules in the order shown above. Insert the quantity before each module code. Omit codes for modules not used in panel. See Note at right for limits on numbers of modules per panel.
X for 4-circuit switching (relay) (XP)
U for 4-circuit dimming
E for 4-circuit electronic low-voltage dimming
A for 4-circuit adaptive dimming
M for 4-circuit motor
T for 0-10V (TVM)

Voltage:
230 for 230V (CE)
240 for 220-240V

Feed type:
FT for feed-through
4 for 3-phase, 4-wire

Panel feed:
Omit for feed through
IS for isolation switch

Suffix:
CE for 230V (CE)
AU for 220-240V

Compatible with the LCP128 system

* Model number information provided for general use only. Please contact Lutron for availability and assistance specifying appropriate model numbers.

Shown above: LCP128 spec grade dimming panel (LCP24-1204ML-20)

Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Electronic low-voltage[1]
- Neon/cold cathode
- Tu-wire fluorescent
- Fluorescent/LED (3-wire)
- LED (2-wire forward phase)
- CFL/LED (screw-base)[1]
- Non-dim lighting

Lighting loads that require an interface

- Fluorescent/LED (0-10 V)[2]
- Fluorescent/LED (PWM)[2]
- Motor loads
- Fan loads

Download specification submittal

Features and capacities

- Combination dimming and switching panel for up to 24 circuits with integrated astronomical time clock and Liquid Crystal Display (LCD) controller for programming
- Circuits rated for 16 A
- Models available for 120 V or 277 V input power at 50/60 Hz power
- All voltages indicated are phase-to-neutral
- LCD controller mounted in the panel, provides easy-to-use, menu-based control and configuration of the entire system
- Two user-configurable contact closure inputs built into the controller provide for easy interface with occupancy sensors and daylight sensors
- Astronomical time clock provides automated selection of lighting scenes
- Provides square law dimming curves for smooth linear control, specifically for each light source
- Lighting levels remain constant throughout changes in power line conditions with Lutron patented RTISS filter circuit
- Feed-through or branch circuit breaker panels are available

Dimensions and mounting

- Width: 28.00 in (711 mm); Height: 37.00 in (940 mm); Depth: 12.00 in (304 mm)
- Surface mounted

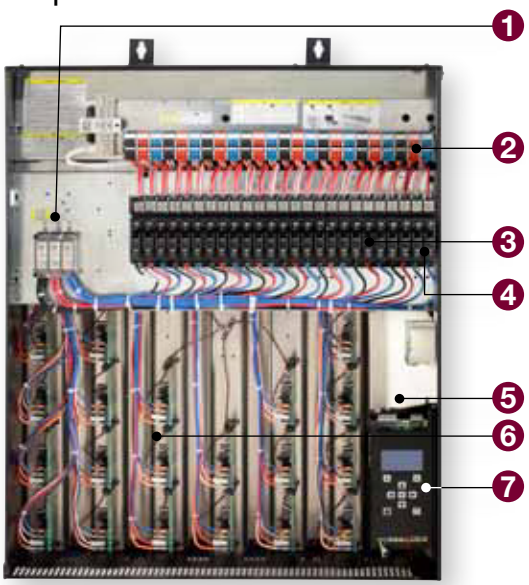
Communication and wiring

- Low voltage IEC PELV/NEC Class 2 standard wired communication connects panel to other system components
- Line (mains) voltage: feed and load wiring only, no other wiring or assembly required
- Connect up to eight panels (standard and/or spec grade) for up to 128 dimmed/switched outputs

[1] Forward phase only. Not all electronic low-voltage transformers and dimmable CFL/LEDs dim properly with forward phase control dimmers. Contact Lutron for compatibility; may require phase-adaptive power module for proper dimming. For reverse phase, a phase adaptive power module will be required.

[2] 0-10 V and PWM ballasts and drivers may also be controlled by adding 10-volt module (TVM) to panel. TVM will also allow control of DALI ballasts and drivers with broadcast commands only. Please contact Lutron for more information if control of these loads is required.

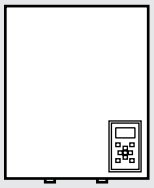
Explanation of features



LCP128 spec grade dimming panel with cover removed

	Feature
1 Power feed wiring	• 120V or 277V • Main breaker feeds or standard main lug
2 Terminal block	• Lighting load circuit connections
3 Branch circuit breakers	• Each circuit is protected by UL®-listed thermal magnetic breakers
4 Filter chokes (behind breakers)	• Highest performance chokes minimize radio frequency interference (RFI) and lamp noise
5 Low-voltage control wiring	• Connection for communication to other system components
6 Dimming card	• Provide square law dimming curves for smooth linear control specifically for each light source • Lighting levels remain constant throughout changes in power line conditions with our patented RTISS filter circuit
7 LCD controller	• Menu-based control and configuration of the entire system • Two integrated user- configurable contact closure inputs • Integrated astronomical time clock

Available models



Spec grade panel

How to build a standard model number

Branch Circuit Breaker Model Numbers

LCP24 - 1204ML - 20

- 24 — Number of circuits
- 1204 — Voltage
- 4 — Feed type
- ML — Panel feed
- 20 — Branch circuit breaker rating

Number of circuits:
8 for 8 circuits
12 for 12 circuits
16 for 16 circuits
20 for 20 circuits
24 for 24 circuits

Voltage:
120 for 120 V
277 for 277 V

Feed type:
2 for 1-phase, 2-wire
3 for 1-phase, 3-wire (split phase)
4 for 3-phase, 4-wire

Feed type:
ML for main lugs
DTML for dual tap main lugs
Mxxx for main breaker (**xxx** = breaker size in amps)

Branch circuit breaker rating:
20 for 20 A branch circuit breakers

Compatible with the LCP128 system

[1] Feed-through panels available, please contact Lutron for more information

[2] 20 A branch circuit breakers have a 16 A continuous load rating

Shown above: Standard size XP switching panel (XP12-1204ML-15)

Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Electronic low-voltage
- Neon/cold cathode
- Fluorescent
- LED
- HID
- Motor loads
- Fan loads
- 15 A receptacles

* Standard size feed-through panels are available with internal separation allowing emergency circuits to be wired into the same enclosure, please contact Lutron for more details

Download specification submittal for 120 V
Download specification submittal for 230 V
Download specification submittal for 220-240 V

Features and capacities

- Panel that provides power and switching for up to 48 switching circuits
- Switching circuits rated for 16 A
- Models are available with 120 V, 230 V (CE), 220-240 V, 277 V, or 347 V input power at 50/60 Hz
- All voltages indicated are phase-to-neutral
- Patented Softswitch® technology eliminates arcing at mechanical contacts when loads are switched, extending relay life to an average of 1,000,000 cycles
- Feed-through or branch circuit breakers are available
- Normal or emergency panel capability*
- Available with 2Link circuit selector, which allows both theatrical and architectural lighting controls in one system

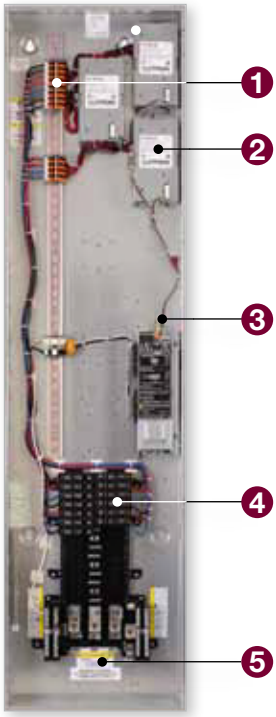
Dimensions and mounting

- **Mini:** Width: 15.88 in (403 mm); Height: 24.50 in (622 mm); Depth: 4.21 in (107 mm)
- **Standard:** Width: 15.88 in (403 mm); Height: 59.50 in (1511 mm); Depth: 4.21 in (107 mm)
- **Large:** Width: 23.50 in (597 mm); Height: 63.50 in (1613 mm); Depth: 6.30 in (160 mm)
- **Extra large:** Width: 23.50 in (597 mm); Height: 82.50 in (2096 mm); Depth: 6.30 in (160 mm)
- Mini and standard size panels can be surface or recess mounted
- Large and extra large panels can be surface mounted only

Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 standard wired communication connects panel to other system components
- Line (mains) voltage: feed and load wiring only, no other wiring or assembly required
- Panels work with GP dimming panels, DCI dimming panels, LP dimming panels, and CCP panels

Explanation of features



Standard size XP switching panel with cover removed

Features	
1 Terminal blocks	• Lighting load circuit connections
2 Switching modules	• Patented Softswitch® circuit eliminates arcing at mechanical contacts when loads are switched, extending relay life to an average of 1,000,000 cycles
3 Low-voltage IEC PELV/NEC Class 2 wiring	• Connection for communication to other system components
4 Branch circuit breakers	• Each circuit is protected by thermal magnetic breakers
5 Power feed wiring	• 120 V, 230 V (CE), 220-240 V, 277 V, or 347 V • Main breaker feeds (120 V only) or standard main lug

Available models

Mini panel

Standard panel

Large panel

Extra large panel

How to build a standard feed-through panel model number*

XP12 - 230FTML

- XP12 — Number of circuits
- 230 — Voltage
- FT — Feed type
- ML — Panel feed

Number of circuits:

4 for 4 circuits
8 for 8 circuits
12 for 12 circuits
16 for 16 circuits
20 for 20 circuits
24 for 24 circuits
28 for 28 circuits
32 for 32 circuits
36 for 36 circuits
40 for 40 circuits
42 for 42 circuits
44 for 44 circuits
48 for 48 circuits

Voltage:
Omit for 120/277 V dual-voltage
230 for 230 V (CE)

Feed type:
FT for feed through

Panel feed:
Omit for 120/277 V dual-voltage
ML for main lugs

Compatible with GRAFIK Eye® 4000 and Quantum® systems.

* Please contact Lutron for availability and assistance with specifying model numbers for 220-240 V and 347 V feed-through panels

How to build a standard branch circuit breaker model number[1]

XP12 - 1204ML - 15

- XP12: Number of circuits
- 1204: Voltage
- 4: Feed type
- ML: Panel feed
- 15: Branch circuit breaker rating

Number of circuits:

4 for 4 circuits
8 for 8 circuits
12 for 12 circuits
16 for 16 circuits
20 for 20 circuits
24 for 24 circuits
28 for 28 circuits
32 for 32 circuits
36 for 36 circuits
40 for 40 circuits
42 for 42 circuits

Voltage:

120 for 120V
277 for 277V

Feed type[2]:

4 for 3-phase, 4-wire

Panel feed[3]:

ML for main lugs

Branch circuit breaker rating:

15 for 15A branch circuit breakers[4]
20 for 20A branch circuit breakers[5]

Compatible with GRAFIK Eye® 4000 and Quantum® systems.

[1] Please contact Lutron for availability and assistance with specifying appropriate model numbers for 230V (CE), 220-240V and 347V branch circuit breaker panels

[2] 1-phase 3-wire (split phase) panel feed option available, please contact Lutron for more information

[3] Main breaker panel feed option available for 120V, please contact Lutron for more information

[4] 15A branch circuit breakers have 12A continuous load rating

[5] 20A branch circuit breakers have 16A continuous load rating

Shown above: Standard LP dimming panel (LP7/28-1204ML-20)

Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Tu-wire fluorescent
- LED (2-wire forward phase)
- Neon/cold cathode
- Non-dim lighting

Lighting loads requiring an interface

- Electronic low-voltage
- Fluorescent/LED (3-wire)
- Fluorescent/LED (0-10V)*
- Fluorescent/LED (PWM)*
- CFL/LED (screw-base)
- Motor loads
- Fan loads

Download specification submittal for 120V
Download specification submittal for 230V
Download specification submittal for 220-240V

Features and capacities

- Panel that provides power and dimming for up to 32 dimming legs (up to eight dimming modules; four outputs per module)
- Models available for 120V, 230V (CE), or 220-240V input power at 50/60Hz
- All voltages indicated are phase-to-neutral
- 120V and 220-240V: 16A per module; 230V (CE): 13A per module, 10A per leg
- Panels include branch circuit breakers
- Available with 2Link circuit selector, which allows both theatrical and architectural lighting controls in one system

Dimensions and mounting

- **Mini:**
  Width: 15.88in (403mm)
  Height: 24.50in (622mm)
  Depth: 4.21in (107mm)

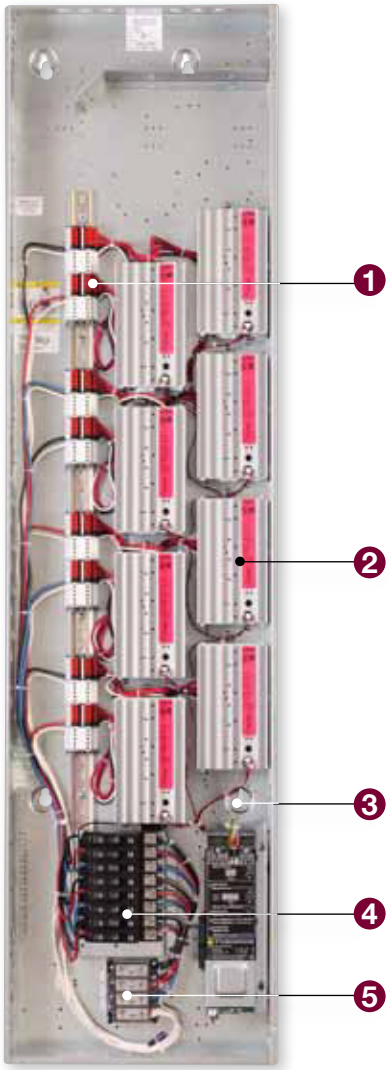
  Standard:
  Width: 15.88in (403mm)
  Height: 59.50in (1511mm)
  Depth: 4.21in (107mm)
- Surface or recess mounted

Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 standard wired communication connects panel to other system components
- Line (mains) voltage: feed and load wiring only, no other wiring or assembly required
- Panels work with GP dimming panels, DCI dimming panels, XP switching panels and CCP panels

* 0-10V and PWM ballasts and drivers may also be controlled by adding 10-volt module (TVM) to panel. TVM will also allow control of DALI ballasts and drivers with broadcast commands only. Please contact Lutron for more information if control of these loads are required.

Explanation of features



Standard size LP dimming panel with cover removed

	Feature
1 Terminal blocks	• Lighting load circuit connections
2 Dimming modules	• Up to eight modules (four outputs each) for up to 32 dimming legs
3 Low-voltage IEC PELV/NEC Class 2 wiring	• Connection for communication to other system components
4 Branch circuit breakers	• Each input circuit is protected by thermal magnetic breakers
5 Power feed wiring	• 120V, 230V (CE), or 220-240V • Main breaker feeds (120V only) or standard main lug

Download specification submittal for 120V
Download specification submittal for 230V
Download specification submittal for 220-240V

Available models


Mini panel


Standard panel

How to build a standard model number

LP7/28 - 1204ML - 20

- 7/28 — Number of dimming modules / dimming legs
- 120 — Voltage
- 4 — Feed type
- ML — Panel feed
- 20 — Branch circuit breaker rating

Number of dimming modules/dimming legs:
1/4 for 1 module, 4 legs
2/8 for 2 modules, 8 legs
3/12 for 3 modules, 12 legs
4/16 for 4 modules, 16 legs
5/20 for 5 modules, 20 legs
6/24 for 6 modules, 24 legs
7/28 for 7 modules, 28 legs
8/32 for 8 modules, 32 legs

Voltage:
120 for 120V
230 for 230V (CE)
240 for 220-240V

Feed type:
2 for 1-phase, 2-wire
3 for 1-phase, 3-wire (split phase)
4 for 3-phase, 4-wire

Panel feed:[1]
ML for main lugs
IS for isolation switch (230V CE/220-240V only)

Branch circuit breaker rating:
15 for 15A branch circuit breakers (120V only)[2]
20 for 20A branch circuit breakers (120V only)[3]
13 for 13A branch circuit breakers (230V CE only)
16 for 16A branch circuit breakers (220-240V only)

Compatible with GRAFIK Eye® 4000 and Quantum® systems.

[1] Main breaker panel feed option available for 120V, please contact Lutron for more information
[2] 15A branch circuit breakers have a 12A continuous load rating
[3] 20A branch circuit breakers have a 16A continuous load rating

Shown above: GP standard size dimming panel (GP8-1204ML-20)

Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Electronic low-voltage[1]
- Neon/cold cathode
- Tu-wire fluorescent
- Fluorescent/LED (3-wire)
- LED (2-wire forward phase)
- CFL/LED (screw-base)[1]
- Non-dim lighting

Lighting loads requiring an interface

- Fluorescent/LED (0-10V)[2]
- Fluorescent/LED (PWM)[2]
- Motor loads
- Fan loads

Download specification submittal for 120V
Download specification submittal for 230V
Download specification submittal for 220-240V

Features and capacities

- Panel that provides power and dimming for up to 144 circuits
- Circuits rated for 16A
- Models available for 100V (Japan)[3], 120V, 230V (CE), 220-240V or 277V at 50/60 Hz
- All voltages indicated are phase-to-neutral
- Feed-through or branch circuit breaker panels are available
- Available with 2Link circuit selector, which allows both theatrical and architectural lighting controls in one system

Dimensions and mounting

- **Mini:** Width: 11in (279mm); Height: 21.13in (537mm); Depth: 6.25in (160mm)
  Standard: Width: 28in (711mm); Height: 37in (940mm); Depth: 12in (304mm)
  Large (GP36): Width: 26.13in (653mm); Height: 87in (2175mm); Depth: 14.13in (360mm)
  Large: Width: 52.31in (1308mm); Height: 87in (2175mm); Depth: 14.13in (360mm)
  Extra large: Width: 52.31in (1308mm); Height: 87in (2175mm); Depth: 28.25in (720mm)
- Mini and standard panels can be surface mounted only
- Large and extra large panels can be floor mounted only

Communication and wiring

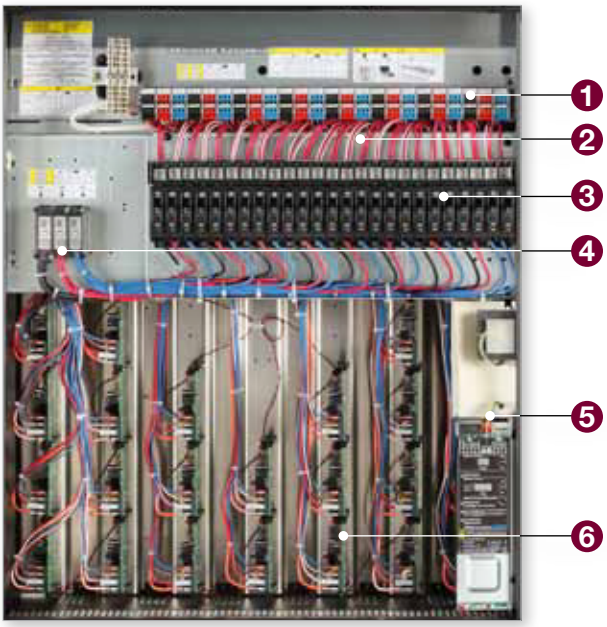
- Low-voltage IEC PELV/NEC Class 2 standard wired communication connects panel to other system components
- Line (mains) voltage: feed and load wiring only, no other wiring or assembly required
- Panels work with XP switching panels, DCI dimming panels, LP dimming panels, and CCP panels

[1] Forward phase only. Not all electronic low-voltage transformers and dimmable CFL/LEDs dim properly with forward phase control dimmers. Contact Lutron for compatibility; may require phase-adaptive power module or electronic low-voltage interface for proper dimming. For reverse phase, a phase adaptive power module or electronic low-voltage interface will be required.

[2] 0-10V and PWM ballasts and drivers may also be controlled by adding 10-volt module (TVM) to panel. TVM will also allow control of DALI ballasts and drivers with broadcast commands only. Please contact Lutron for more information if control of these loads is required

[3] Please contact Lutron for more information on Japan panel availability

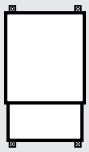
Explanation of features



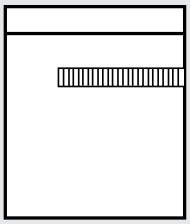
Standard size GP dimming panel with cover removed

Feature	
1 Terminal block	• Lighting load circuit connections
2 Filter chokes (behind breakers)	• Highest performance chokes minimize radio frequency interference (RFI) and lamp noise
3 Branch circuit breakers	• Each circuit is protected by thermal magnetic breakers
4 Power feed wiring	• 100 V (Japan), 120 V, 230 V (CE), 220-240 V or 277 V • Main breaker feeds (120 or 277 V) or standard main lug
5 Low-voltage IEC PELV/NEC Class 2 wiring	• Connection for communication to other system components
6 Dimming card	• Provides square law dimming curves for smooth linear control specifically for each light source. • Lighting levels remain constant throughout changes in power line conditions with our patented RTISS® filter circuit

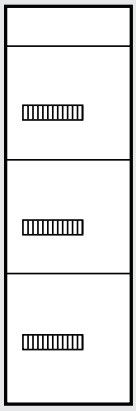
Available models



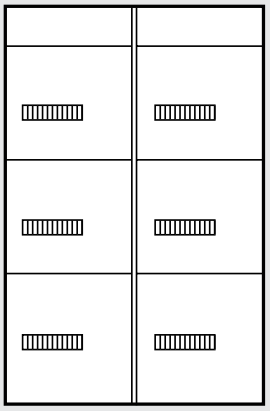
GP 3-4 mini panel



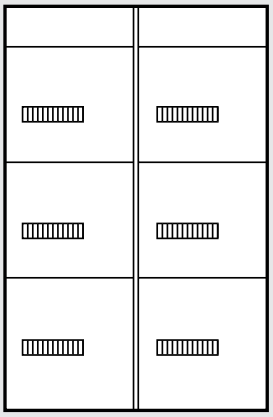
GP 8-24 standard size panel



GP 36 large size panel



GP 48-72 large size panel



GP 144 extra large size panel

How to build a standard 120 V or 277 V model number

GP12 - 1204ML - 20

- Number of switch legs
- Voltage
- Feed type
- Panel feed
- Branch circuit breaker rating

Number of load circuits:

3 for 3 circuits
4 for 4 circuits
8 for 8 circuits
12 for 12 circuits
16 for 16 circuits
20 for 20 circuits
24 for 24 circuits
36 for 36 circuits
48 for 48 circuits
60 for 60 circuits
72 for 72 circuits
144 for 144 circuits

Voltage:

120 for 120 V
277 for 277 V

Feed type:

FT for feed-through
2 for 1-phase, 2-wire
3 for 1-phase, 3-wire (split phase)
4 for 3-phase, 4-wire

Panel feed:

ML for main lugs only
DTML for dual tap main lugs
Mxx for main breaker with **xx** = breaker size in Amps

Branch circuit breakers:

15 for 15 A branch circuit breakers[1]
20 for 20 A branch circuit breakers[2]

Compatible with GRAFIK Eye® 4000 and Quantum® systems.

[1] 15 A branch circuit breakers have a 12 A continuous load rating

[2] 20 A branch circuit breakers have a 16 A continuous load rating

How to build a standard 230 V (CE) or 220-240 V model number

GP12 - 2304IS - 10CE

- Number of switch legs
- Voltage
- Feed type
- Panel feed
- Branch circuit breaker rating
- Suffix

Number of load circuits:

3 for 3 circuits
4 for 4 circuits
8 for 8 circuits
12 for 12 circuits
16 for 16 circuits
20 for 20 circuits
24 for 24 circuits

Voltage:

230 for 230 V (CE)
240 for 220-240 V

Feed type:

FT for feed-through
2 for 1-phase, 2-wire (split phase)
4 for 3-phase, 4-wire

Panel feed:

IS for isolation switch

Branch circuit breakers:

10 for 10 A branch circuit breakers
16 for 16 A branch circuit breakers (220-240 V only)

Suffix:

CE for 230 V (CE)
AU for 220-240 V

Shown above: Standard size custom combination panel

Direct lighting loads

(Requires modules to control loads; see pg. 190 for module information)

- Incandescent/halogen
- Magnetic low-voltage
- Electronic low-voltage
- Neon/cold cathode
- Tu-wire fluorescent
- LED (2-wire forward phase)
- CFL/LED (screw-base)[1]
- Non-dim lighting
- AC motors loads
- Motor loads
- Fan loads

Lighting loads requiring an interface

- Fluorescent/LED (3-wire)
- Fluorescent/LED (0-10 V)[2]
- Fluorescent/LED (PWM)[2]

Download specification submittal for 120 V
Download specification submittal for 230 V
Download specification submittal for 220-240 V

[1] Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with the adaptive dimming module.

[2] 0-10 V and PWM ballasts and drivers may also be controlled by adding 10-volt module (TVM) to panel. TVM will also allow control of DALI ballasts and drivers with broadcast commands only. Please contact Lutron for more information if control of these loads is required

Features and capacities

- Combination dimming and switching panel that provides power and dimming/switching for up to 32 dimming/switching legs
- Models available for 120V, 230V (CE) or 220-240V at 50/60Hz
- All voltages indicated are phase-to-neutral
- Provides square law dimming curves for smooth linear control specifically for each light source
- Lighting levels remain constant throughout changes in power line conditions with Lutron patented RTISS filter circuit
- Panels include input branch circuit breakers
- Available with a 2Link circuit selector, which allows both theatrical and architectural lighting controls in one system
- Modules required to control listed load types, choose module based on load type and control required:

Dimming:
- Incandescent/halogen, magnetic low-voltage, electronic low-voltage[1], neon/cold cathode, CFL/LED (screw-base)[1], Tu-wire fluorescent, 2-wire forward phase LED, 3-wire fluorescent[1], 3-wire LED[1], 0-10V fluorescent[1], 0-10V LED[1], PWM fluorescent[1], PWM LED[1] or non-dim lighting
- 4-circuits;16A per module

Electronic low-voltage (230V CE/220-240V non-CE only):
- Incandescent/halogen, electronic low-voltage or CFL/LED (screw-base)[2]
- 4-circuits; 16A per module, 10A per circuit

Adaptive dimming:
- Incandescent/halogen, magnetic low-voltage, electronic low-voltage, neon/cold cathode, CFL/LED (screw-base), Tu-wire fluorescent, 2-wire forward phase LED, 3-wire fluorescent[1], 3-wire LED[1], 0–10V fluorescent[1], 0-10V LED[1], PWM fluorescent[1], PWM LED[1] or non-dim lighting[1]
- 4-circuits; 16A per module, 10A per circuit

Switching:
- Non-dim lighting, motor loads or 15A receptacles
- 4-circuits; 16A per circuit

Quiet fan speed control (120V only):
- Ceiling fan, four speed
- 4-circuits; 8A per module, 2A per circuit

Motor:
- AC motor and non-dim incandescent lighting
- 4-circuits; 16A per module, 5A per circuit

10-volt (TVM)[3]:
- 0-10V fluorescent, 0–10V LED, PWM fluorescent, PWM LED, DALI fluorescent, or DALI LED
- Two consecutive circuits; 50mA per channel, 750mA per system

Dimensions and mounting

- Width: 15.88in (403mm)
  Height: 59.50in (1511mm)
  Depth: 4.21in (107mm)
- Surface or recess mounted

Communication and wiring

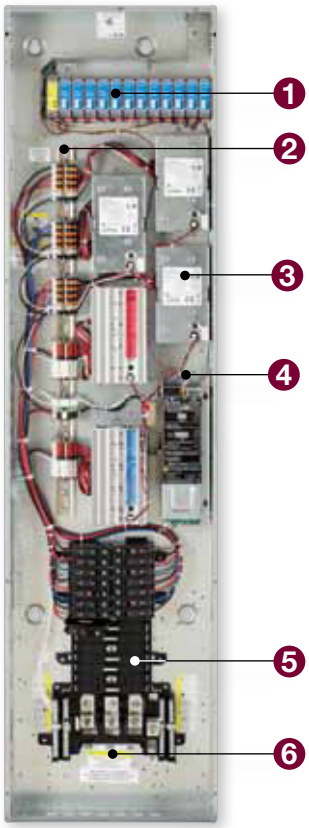
- Low-voltage IEC PELV/NEC Class 2 standard wired communication connects panel to other system components
- Line (mains) voltage: feed and load wiring only, no other wiring or assembly required
- Panels work with GP dimming panels, DCI dimming panels, LP dimming panels, and XP switching panels

[1] Interface required

[2] Reverse phase only. Forward phase loads will require a power booster for proper dimming

[3] One dimming or switching module must be present for every two TVMs included in panel

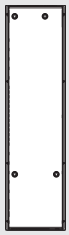
Explanation of features



CCP panel with cover removed

	Feature	
1	Low-voltage control wiring for TVM loads	• Allows for proper voltage spacing
2	Terminal blocks	• For lighting load circuit connections
3	Modules	• Have different modules for different load types
4	Low-voltage IEC PELV/NEC Class 2 wiring	• Connection for communication to other system components
5	Branch circuit breakers	• Each input circuit is protected breakers by thermal magnetic breakers
6	Feedwiring	• Standard main lug or main breaker feeds (120V only)

Available models



Standard panel

How to build a 120V model number[1]

CCP - 2X2L1A8T - 1204ML - 20

- 2X2L1A8T: Module (quantity and type)
- 1204ML: 1 = Voltage, 2 = Feed type, 4 = Panel feed
- 20: Branch circuit breaker rating

Module (quantity and type):
_X_L_A_M_F_T
List modules in order shown above. Insert the quantity before each module code. Omit codes for modules not used in panel. See note at right for limits on numbers of modules per panel
X for 4-circuit switching (relay) (XP)
L for 4-circuit dimming
A for 4-circuit adaptive dimming
M for 4-circuit motor
F for 4-circuit quiet fan speed
T for 10V (TVM)

Voltage:
120 for 120V

Feed type:
3 for 1-phase, 3-wire (split phase)
4 for 3-phase, 4-wire

Panel feed:
ML for main lugs

Branch circuit breakers:
15 for 15A branch circuit breakers[2]
20 for 20A branch circuit breakers[3]

Note:
Module quantities are limited as follows (TVMs do not count toward maximum quantity):
Max. # in panel—9
Max. # with TVMs—8
Max. # with XP modules—7
Max. # with XP modules and TVMs—5
Max. # of TVM—12

Compatible with GRAFIK Eye® 4000 and Quantum® systems.

[1] Model number information provided for general use only. Please contact Lutron for availability and assistance specifying appropriate model numbers.
[2] 15A branch circuit breakers have a 12A continuous load rating
[3] 20A branch circuit breakers have a 16A continuous load rating

How to build a 230V (CE) or 220-240V model number*

CCP - 2X2L1E8T - 2304IS - CE

- 2X2L1E8T: Module (quantity and type)
- 2304IS: Voltage, Feed type, Panel feed
- CE: Branch circuit breaker rating

Module (quantity and type):
_X_L_E_A_M_T
List modules in order shown above. Insert the quantity before each module code. Omit codes for modules not used in panel. See note at right for limits on numbers of modules per panel
X for 4-circuit switching (relay) (XP)
L for 4-circuit dimming
E for 4-circuit electronic low-voltage dimming
A for 4-circuit adaptive dimming
M for 4-circuit motor
T for 10V (TVM)

Voltage:
230 for 230V (CE)
240 for 220-240V

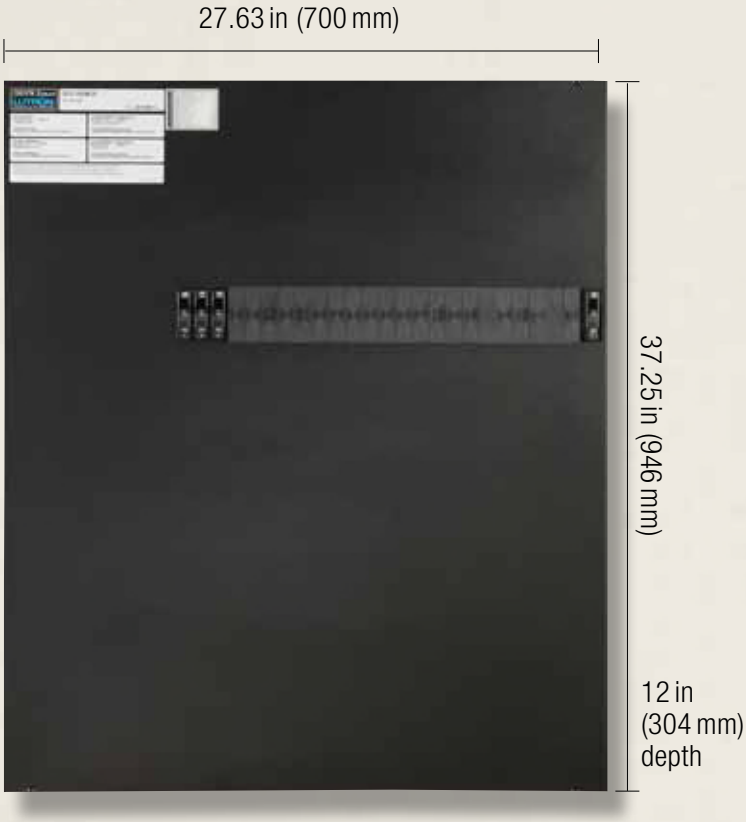
Feed type:
4 for 3-phase, 4-wire

Panel feed:
IS for isolation switch

Branch circuit breakers:
CE for 13A branch circuit breakers (230V CE only)
AU for 16A branch circuit breakers (220-240V only)

Compatible with GRAFIK Eye® 4000 and Quantum® systems.

* Model number information provided for general use only. Please contact Lutron for availability and assistance specifying appropriate model numbers.



Shown above: DCI dimming panel
(DC12-1202M-20)

Direct lighting loads

- Incandescent/halogen

Features and capacities

- Dimming panel featuring direct current, thus not producing radio frequency interference (RFI) that is normally associated with standard phase-control incandescent dimming
- Models available for 120 V at 60 Hz with up to three dimming modules
- Each module rated for 1200 W
- Voltage indicated is phase-to-neutral
- Ideal for Magnetic Resonance Imaging (MRI) facilities* and sound studios
- Meets recommended electrical noise levels of MRI system manufacturers
- Lamps are free of flicker and audible noise throughout the entire dimming range
- Available with 2Link circuit selector, which allows both theatrical and architectural lighting controls in one system

Dimensions and mounting

- Width: 27.63 in (700 mm)
  Height: 37.25 in (946 mm)
  Depth: 12 in (304 mm)
- Surface mount only

Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 standard wired communication connects panel to other system components
- Line (mains) Voltage: feed and load wiring only, no other wiring or assembly required
- Panels work with GP dimming panels, LP dimming panels, XP switching panels and CCP panels

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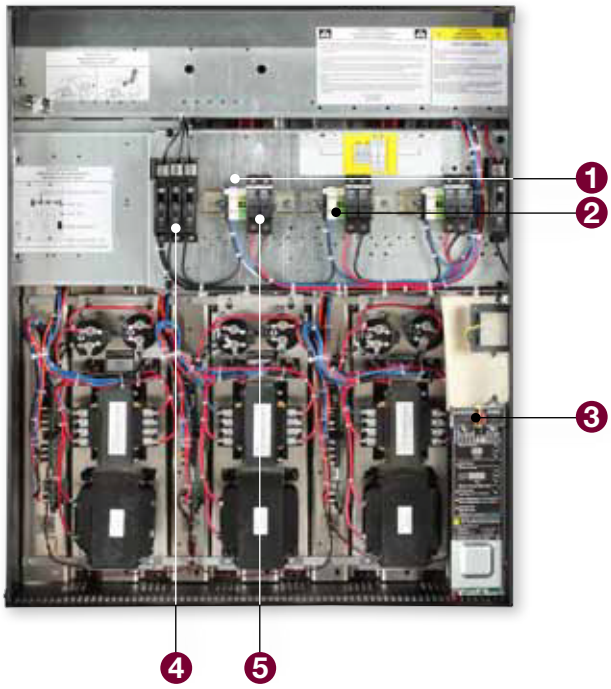
* Special facility filters are required for MRI applications, consult factory for specific information

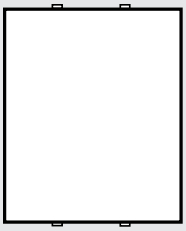
Explanation of features



DCI dimming panel with cover removed

Feature	
1 Input feed	• Terminal blocks provided to land feed wires
2 Terminal blocks	• Lighting load circuit connections
3 Low-voltage IEC PELV/NEC Class 2 wiring	• Connection for communication to other system components
4 Branch breakers	• Each circuit is protected by UL®-listed thermal magnetic breakers
5 Output fuse	• In series with both the output load wires, over current for the DC load to protect dimming module

Available models



Dimming panel

How to build a model number

DCI**2** - **1202**M - **20**

- **2** — Number of modules
- **1202** — Voltage
- **2** — Feed type
- **M** — Panel feed
- **20** — Branch circuit breaker rating

Number of modules:
1 for 1 module
2 for 2 modules
3 for 3 modules

Voltage:
120 for 120 V

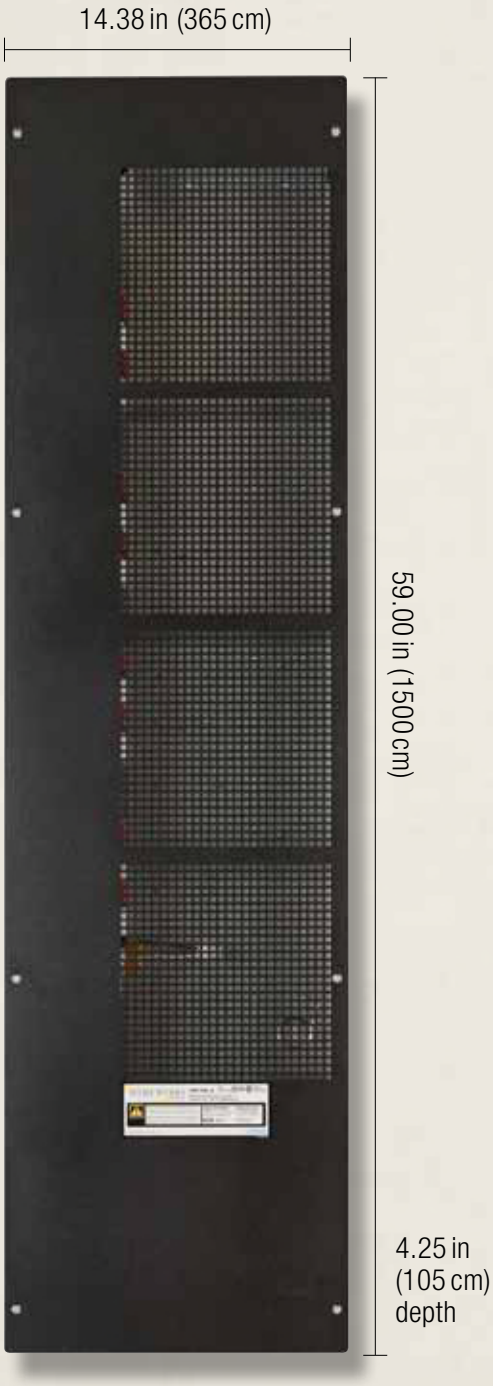
Feed type:
2 for 1-phase, 2-wire

Panel feed:
M for main breaker[1]

Branch circuit breaker rating:
20 for 20 A branch circuit breakers[2]

Compatible with GRAFIK Eye® 4000 and Quantum® systems.

[1] One 20 A main breaker per module
[2] 20 A branch circuit breakers have a 16 A continuous local rating



Shown above: HomeWorks QS 8-module remote power feed-through panel (HWI-PNL-8)

Features and capacities

- Models available for 120 V or 220-240 V (CE) @ 50/60 Hz
- Available in two sizes: 5-module or 8-module
- May be distributed throughout the home for added flexibility during installation of the line-voltage wiring
- Can house up to eight remote power modules (only seven if using TVM modules[1]) in any combination, one module interface, up to two processors or interfaces, and two power supplies
- Allows for passive cooling, mount in a place where the vented cover will not be blocked
- DIN-rail mounted terminal blocks are provided with bypass jumpers installed
- Includes 24 ground termination points
- Enclosure is manufactured from 16-gauge galvanized sheet metal

Dimensions and mounting

- **5-module:**
  Width: 14.38 in (365 mm)
  Height: 32.00 in (810 mm)
  Depth: 4.25 in (105 mm)
- **8-module:**
  Width: 14.38 in (365 mm)
  Height: 59.00 in (1500 mm)
  Depth: 4.25 in (105 mm)
- May be surface- or recess-mounted

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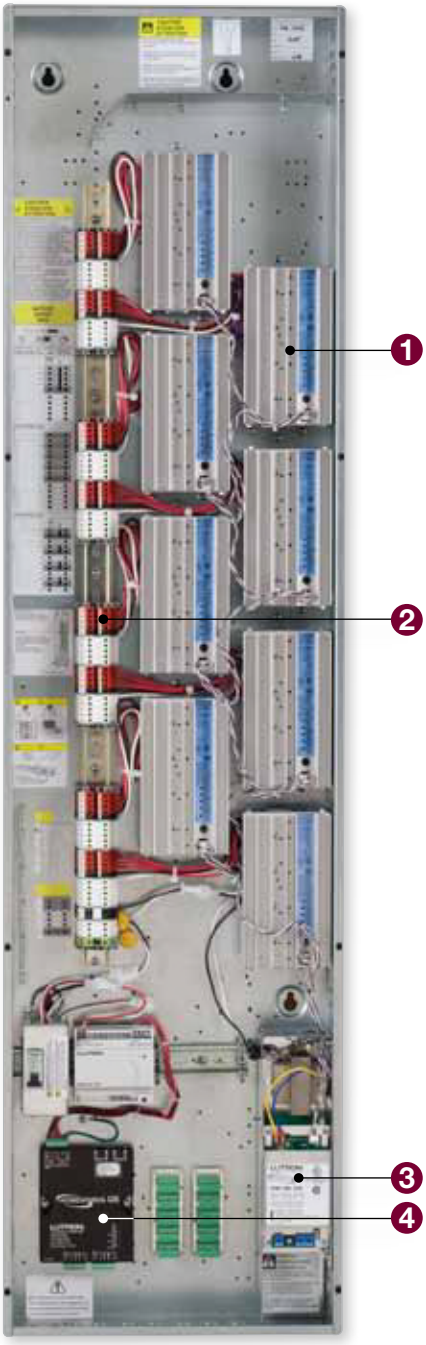
[1] 0-10 V and PWM ballasts and drivers may also be controlled by adding 10-volt module (TVM) to panel. TVM will also allow control of DALI ballasts and drivers. Please contact Lutron for more information if control of these loads is required.

Explanation of features



HomeWorks QS remote power feed-through panel with cover removed

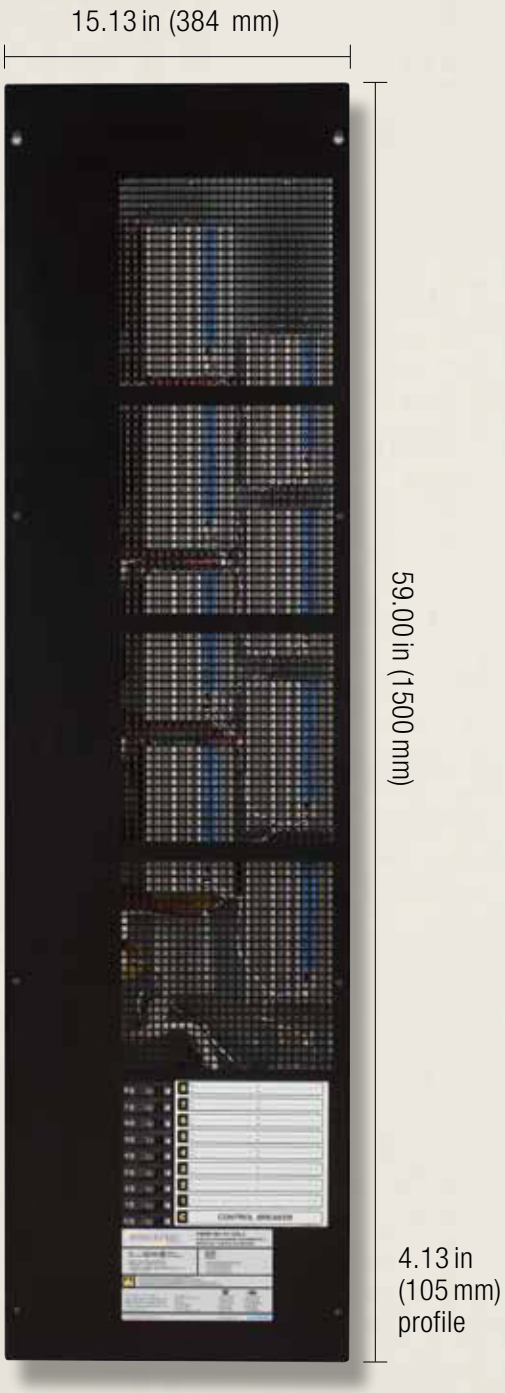
Feature	
1 Remote power modules	• Used to control lighting, motor and fan loads (sold separately)
2 Terminal blocks	• For feed and lighting load circuit connections
3 Module interface	• Manages communication between remote power modules and the processor (sold separately)
4 Processor	• Provides control and communication system components (sold separately)

Model numbers

Remote power feed-through panel

5-module, 120V	HWI-PNL-5
5-module, 230V (CE)/220-240V	HWI-PNL-5-CE
8-module, 120V	HWI-PNL-8
8-module, 230V (CE)/220-240V	HWI-PNL-8-CE

Compatible with HomeWorks QS system.



Shown above: HomeWorks QS 8-module remote power panel with breakers (HWBP-8D-15-120L3)

Features and capacities

- Can house up to eight remote power modules, one module interface and breakers (no processor)
- May be distributed throughout the home for added flexibility during installation of the line-voltage wiring
- Models available for 120/240 V @ 50/60 Hz with 15 A or 20 A breakers (international models available with 20 A only)
- Available in two sizes: 2-module or 8-module (international models available for 8-modules only)
- International breakers are CE rated
- Standard and international breaker panels include factory-installed wiring from standard breakers to the terminal blocks.
- Arc-fault breaker panels include commercial-grade combination Arc-Fault Circuit Interrupter (AFCI) breakers
- Standard and arc-fault breaker panels include 24 ground termination points
- International breaker panels include 24 ground termination points
- DIN-rail mounted terminal blocks are provided with bypass jumpers installed
- Require only one feed from the main distribution panel
- Enclosure is manufactured from 16-gauge galvanized sheet metal

Dimensions and mounting

- **2-module:**
  Width: 15.13 in (384 mm)
  Height: 24.00 in (610 mm)
  Depth: 4.13 in (105 mm)
- **8-module:**
  Width: 15.13 in (384 mm)
  Height: 59.00 in (1500 mm)
  Depth: 4.13 in (105 mm)
- **8-module (international):**
  Width: 16.88 in (427 mm)
  Height: 63.00 in (1600 mm)
  Depth: 4.00 in (102 mm)
- May be surface- or recess-mounted

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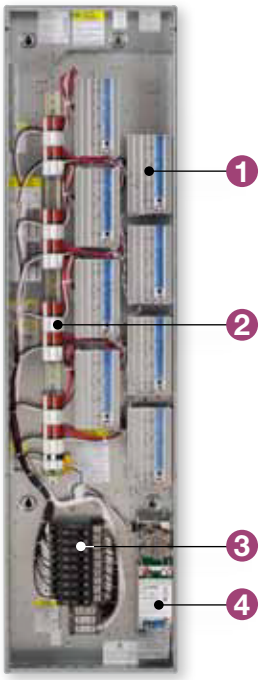
Explanation of features



HomeWorks QS 8-module remote power panel with breakers with cover removed

Feature	
1 Remote power modules	• Used to control lighting, motor and fan loads (sold separately)
2 Terminal blocks	• For feed and lighting load circuit connections
3 Breakers	• 15 or 20A • Standard, arc-fault or international (CE)
4 Module interface	• Manages communication between remote power modules and processor (sold separately)

Model numbers

2-module, standard breakers

1-phase, 3-wire, 15A 120/240V	HWBP-2S-15-120L3
1-phase, 3-wire , 20A 120/240V	HWBP-8D-15-120L3
3-phase, 4-wire, 15A 120/208V	HWBP-2S-15-120L4
3-phase, 4-wire, 20A 120/208V	HWBP-2S-20-120L4

8-module, standard breakers

1-phase, 3-wire, 15A 120/240V	HWBP-8D-15-120L3
1-phase, 3-wire, 20A 120/240V	HWBP-8D-20-120L3
3-phase, 4-wire, 15A 120/208V	HWBP-8D-15-120L4
3-phase, 4-wire, 20A 120/208V	HWBP-8D-20-120L4

8-module, arc-fault breakers

1-phase, 3-wire, 15A 120/240V	HWAP-8D-15-120L3
1-phase, 3-wire, 20A 120/240V	HWAP-8D-20-120L3
3-phase, 4-wire, 15A 120/208V	HWAP-8D-15-120L4
3-phase, 4-wire, 20A 120/208V	HWAP-8D-20-120L4

International breakers

1-phase, 3-wire, 20A input breakers 120/240V	PBK8-40-13-CE
1-phase, 3-wire, 20A input and output breakers 120/240V	PBK8-40-13-10-CE

Compatible with HomeWorks QS system

Shown above: Adaptive dimming module (HW-RPM-4A-120)

Features and capacities

- Controls up to four circuits of incandescent/ halogen, magnetic low-voltage, neon/cold cathode, and Tu-wire® fluorescent lighting
- Automatically selects leading edge or trail edge dimming
- Maximum load per 120 V module is 16 A, 10 A per circuit
- Maximum load per 220-240 V (CE) module is 13 A, 8 A per circuit

Operating voltages

- Models available for 120 V or 220-240 V (CE) @ 50/60 Hz

Dimensions and mounting

- Width: 3.88 in (98 mm)
  Height: 7.00 in (178 mm)
  Depth: 3.50 in (89 mm)

Direct lighting loads

- Incandescent/halogen
- Electronic low-voltage
- Magnetic low-voltage
- Neon/cold cathode
- LED (2-wire forward phase)
- Tu-Wire fluorescent
- CFL/LED (screw-base)*

Model numbers

Adaptive remote power dimming modules	
120 V	HW-RPM-4A-120
230 V (CE), 220-240 V	HW-RPM-4A-230

Compatible with HomeWorks QS system

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

For specific voltage by country information refer to the voltage chart on pg. 692.

Download specification submittal

Shown above: Dimming module (HW-RPM-4U-120)

Features and capacities

- Controls up to four circuits of incandescent/halogen, magnetic low-voltage, neon/cold cathode, Tu-wire® fluorescent, and non-dim lighting
- Maximum load per 120V/220-240V module is 16A
- Maximum load per 230V (CE) module is 13A, 10A per circuit

Operating voltages

- Models available for 120V, 230V (CE), or 220-240V @ 50/60Hz

Dimensions and mounting

- Width: 3.88in (98mm)
  Height: 7.00in (178mm)
  Depth: 3.50in (89mm)
- Mounts in a HomeWorks QS remote power feed-through or breaker panel

Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Neon/cold cathode
- Tu-Wire fluorescent
- LED (2-wire forward phase)
- Non-dim lighting

Model numbers

Dimming remote power modules	
120V	HW-RPM-4U-120
230V (CE)	HW-RPM-4U-230-CE
220-240V	HW-RPM-4U-240

Compatible with HomeWorks QS system

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For specific voltage by country information refer to the voltage chart on pg. 692.

Shown above: HomeWorks QS relay remote power module (HW-RPM-4R)

Features and capacities

- Controls up to four circuits of switched lighting, fans, or motor loads
- Maximum load per circuit is 16 A

Operating voltages

- Available for 100-277 V (CE) @ 50/60 Hz

Dimensions and mounting

- Width: 3.88 in (98 mm)
  Height: 7.00 in (178 mm)
  Depth: 3.50 in (89 mm)

Direct lighting loads

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

Model numbers

Relay remote power module

100-277 V (CE)	HW-RPM-4R

Compatible with HomeWorks QS system

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For specific voltage by country information refer to the voltage chart on pg. 692.

Shown above: HomeWorks QS remote power motor module (HW-RPM-4M)

Features and capacities

- Controls up to four circuits of 3-wire AC motors for applications such as shades, draperies and curtains
- Utilizes two mechanically interlocked relays for directional control that prevents simultaneous operation of both outputs
- Maximum load per module is 16 A, per circuit 5 A (0.25 HP)

Operating voltages

- Models available for 120 V or 220-240 V @ 50/60 Hz

Dimensions and mounting

- Width: 3.88 in (98 mm)
  Height: 7.88 in (200 mm)
  Depth: 2.80 in (73 mm)
- Mounts in a HomeWorks QS remote power feed-through or breaker panel

Direct lighting loads

- AC motor loads
- Non-dim lighting

Model numbers

Motor remote power modules	
120 V	HW-RPM-4M-120
220-240 V	HW-RPM-4M-230

Compatible with HomeWorks QS system

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For specific voltage by country information refer to the voltage chart on pg. 692.

Shown above: HomeWorks QS remote power fan module (HW-RPM-4FSQ-120)

Features and capacities

- Provides four-speed control for up to four circuits of ceiling fans
- Maximum load per module is 8 A, 2 A per circuit

Operating voltages

- Available for 120 V @ 50/60 Hz

Dimensions and mounting

- Width: 3.88 in (98 mm)
  Height: 7.88 in (200 mm)
  Depth: 2.80 in (73 mm)
- Mounts in a HomeWorks QS remote power feed-through or breaker panel

Direct lighting loads

Fan loads (speed control)

Model numbers

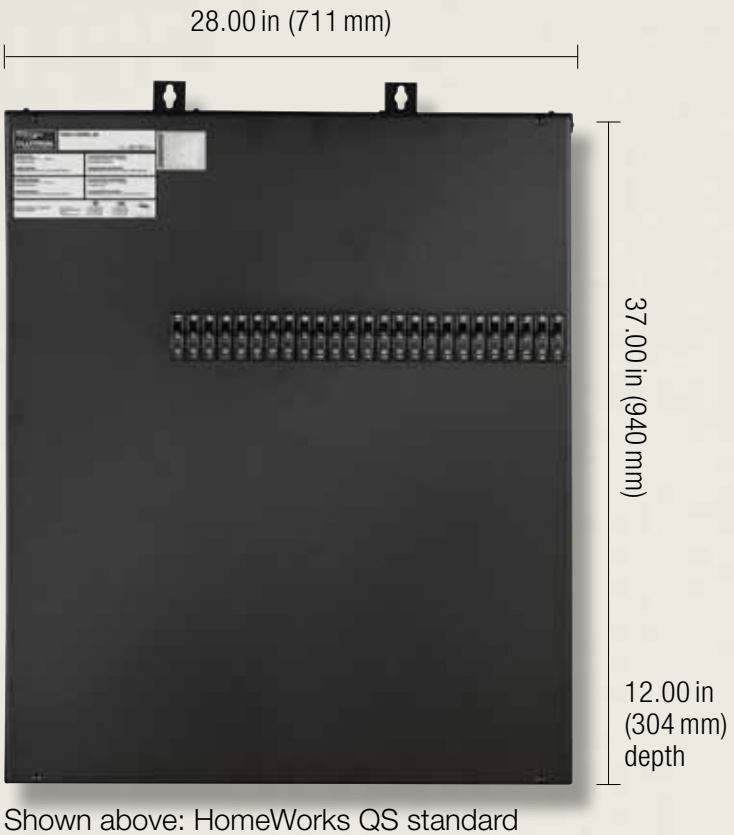
Fan remote power modules

120 V	HW-RPM-4FSQ-120

Compatible with HomeWorks QS system

Download specification submittal

For specific voltage by country information refer to the voltage chart on pg. 692.



Shown above: HomeWorks QS standard size spec grade panel (HS24-1204ML-20)

Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Electronic low-voltage[1]
- Neon/cold cathode
- Tu-Wire fluorescent
- Fluorescent/LED (3-wire)
- LED (2-wire forward phase)
- CFL/LED (screw-base)[1]
- Non-dim lighting

Lighting loads requiring an interface

- Fluorescent/LED (0-10 V)[2]
- Fluorescent/LED (PWM)[2]
- Motors loads
- Fan loads

Download specification submittal

Features and capacities

- Panel that provides power and dimming for up to 72 circuits rated for 16 A
- Models available for 120 V @ 50/60 Hz, phase-to-neutral

Dimensions and mounting

- **Standard**:
  Width: 28.00 in (711 mm)
  Height: 37.00 in (940 mm)
  Depth: 12.00 in (304 mm)
- **Large (36)**:
  Width: 28.00 in (711 mm)
  Height: 87.00 in (2175 mm)
  Depth: 14.13 in (360 mm)
- **Large (48-72)**:
  Width: 52.31 in (1308 mm)
  Height: 87.00 in (2175 mm)
  Depth: 14.13 in (360 mm)

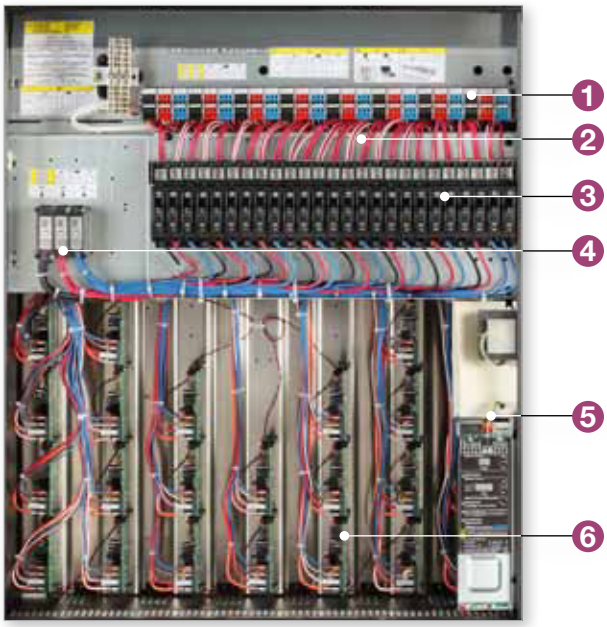
Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 standard wires communication panels connect panels to the QS processor
- Line (mains) voltage: feed and load wiring only, no other wiring or assembly required
- HomeWorks QS system can have up to 16 addresses and 256 zones on the power; each panel and assigned zones count toward the limit

[1] Forward phase only. Not all electronic low-voltage transformers and dimmable CFL/LEDs dim properly with forward phase control dimmers. Contact Lutron for compatibility; may require phase adaptive power module or electronic low-voltage interface for proper dimming. For reverse phase, a phase adaptive power module or electronic low-voltage interface will be required.

[2] 0-10 V and PWM ballasts and drivers may also be controlled by adding 10-volt module (TVM) to panel. TVM will also allow control of DALI ballasts and drivers with broadcast commands only. Please contact Lutron for more information if control of these loads is required.

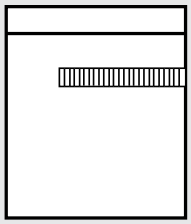
Explanation of features



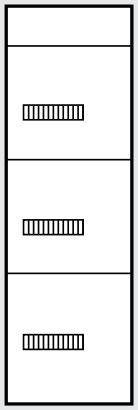
HomeWorks spec grade panel with cover removed

Feature	
1 Terminal block	• Lighting load circuit connections
2 Filter chokes (behind breakers)	• Highest performance chokes minimize radio frequency interference (RFI) and lamp noise
3 Branch circuit breakers	• Each circuit is protected by UL®-listed thermal magnetic breakers
4 Power feed wiring	• 120V • Main breaker feeds or standard main lug
5 Low-voltage IEC PELV/NEC Class 2 wiring	• Connection for communication to other system components
6 Dimming card	• Provide square law dimming curves for smooth linear control UL listed specifically for each light source • Lighting levels remain constant throughout changes in power line conditions with our patented RTISS™ filter circuit

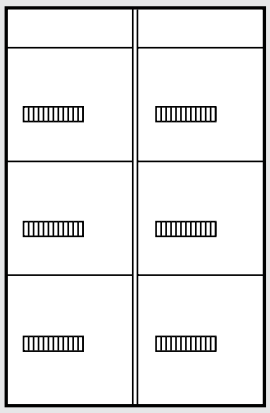
Available models



HomeWorks QS spec grade standard size panel



HomeWorks QS spec grade 36 large size panel



HomeWorks QS spec grade 48-72 large size panel

How to build a model number

HS12 - 1204ML - 20

- 12 — Number of load circuits
- 120 — Voltage
- 4 — Feed type
- ML — Panel feed
- 20 — Branch circuit breaker rating

Number of load circuits:

3 for 3 circuits	24 for 24 circuits
4 for 4 circuits	36 for 36 circuits
8 for 8 circuits	48 for 48 circuits
12 for 12 circuits	60 for 60 circuits
16 for 16 circuits	72 for 72 circuits
20 for 20 circuits	

HomeWorks QS spec grade 36 large size panel

Voltage:
120 for 120V

Feed type:
2 for 1-phase, 2-wire
3 for 1-phase, 3-wire (split phase)
4 for 3-phase, 4-wire

Panel feed:
ML for main lugs only
DTML for dual tap main lugs
Mxx for main breaker with **xx** = breaker size in Amps

Branch circuit breakers:
15 for 15A branch circuit breakers[1]
20 for 20A branch circuit breakers[2]

Compatible with HomeWorks QS system

[1] 15A branch circuit breakers have a 12A continuous load rating

[2] 20A branch circuit breakers have a 16A continuous load rating

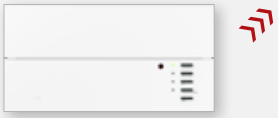
Primary controls

A primary control is the main device in a lighting control system that coordinates communication and distributes commands such as preset scene levels to sub-controls, sensors and shades.

Primary control options include:

- GRAFIK Eye® main units
- Energi Savr Node™ modules
- Dimmers
- Plug-in modules
- Lamp dimmers

Whole building



GRAFIK Eye® 4000 series control unit
pg. 213

GRAFIK Eye 4000 Series slider control unit
pg. 220

GRAFIK Eye QS main unit
pg. 225

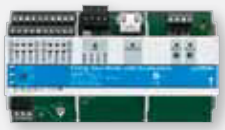
Wireless Radio Frequency (RF) communication
Infrared (IR) communication

Energi Savr Node™ with EcoSystem®
pg. 237

Energi Savr Node™ for 0-10V/Energi Savr Node for Switching (DIN-rail)
pg. 249

Energi Savr Node for 0-10V/with Energi Savr Node Softswitch®
pg. 240

Energi Savr Node phase adaptive (DIN-rail)
pg. 252

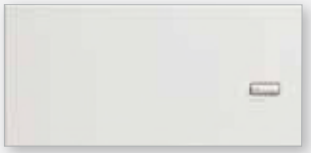


Energi Savr Node with EcoSystem (DIN-rail)
pg. 243

Energi Savr Node for DALI (DIN-rail)
pg. 246

Whole home

HomeWorks® QS designer dimmers and switches
pg. 255



HomeWorks QS wallbox power module
pg. 271

HomeWorks QS phase adaptive power module (DIN-rail)
pg. 278

HomeWorks QS hybrid seeTouch® keypad
pg. 260

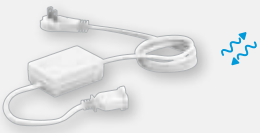
HomeWorks QS power module with EcoSystem® (DIN-rail)
pg. 272

HomeWorks QS switching/0-10 V power module (DIN-rail)
pg. 281

HomeWorks QS tabletop lamp dimmer
pg. 265

HomeWorks QS DALI power module (DIN-rail)
pg. 275

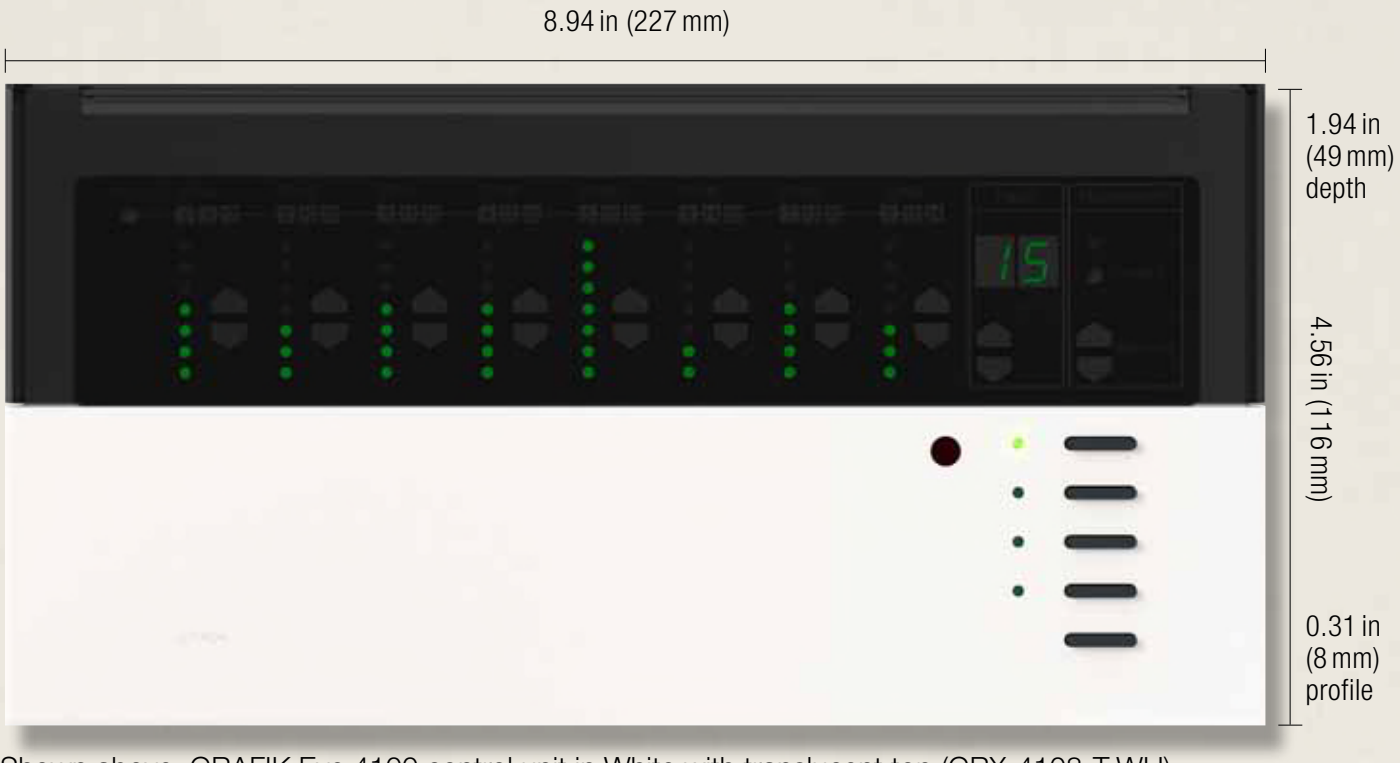
HomeWorks QS motor control power module (DIN-rail)
pg. 284



HomeWorks QS RF plug-in modules
pg. 268

Wireless Radio Frequency (RF) communication

Infrared IR communication



Shown above: GRAFIK Eye 4100 control unit in White with translucent top (GRX-4108-T-WH)

Download specification submittal

Features and capacities

- Serves as a control unit for up to 24 zones of lighting
- Loads are controlled through GP, XP, LP, DCI and/or CCP power panels (see pgs. 158-209)
- Allows set up of lighting scenes using buttons on the control unit
- Provides push-button recall of four preset lighting scenes plus off on control unit
- Stores up to 12 additional user-programmable scenes
- Scenes can be recalled via a keypad/wallstation and/or control interface
- Light levels fade smoothly between scenes
- Fade time can be set differently for each scene, between 0-59 second or 1-60 minute
- Provides lockout options to prevent accidental changes
- Includes built-in infrared (IR) receiver for control with an IR remote control (sold separately) (see pg. 290)
- 4500 model allows PC-based programming through GRAFIK Eye Liaison software and control of Sivoia QED and 3-wire AC motorized window treatments (control interface required)
- Operates at 24 VDC off the link
- Engraving available

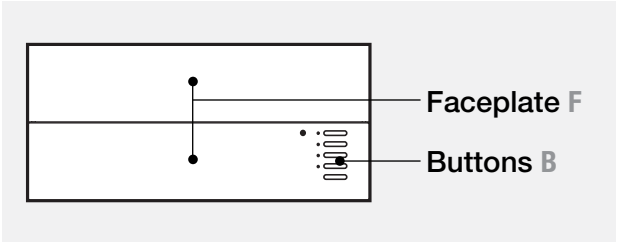
Dimensions and mounting

- 2-zone:
  Width: 5.56 in (141 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)
- 3-zone:
  Width: 7.25 in (184 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)
- 4-, 6-, 8-, 16- and 24-zone:
  Width: 8.94 in (227 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)
- 2-zone control unit mounts into a 2-gang U.S. backbox, 3.50 in (89 mm) deep
- 3-zone control unit mounts into a 3-gang U.S. backbox, 3.50 in (89 mm) deep
- 4-, 6-, 8-, 16- and 24-zone control units mount into a 4-gang U.S. backbox, 3.50 in (89 mm) deep

Communication and wiring

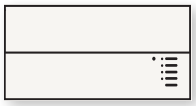
- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to panels and other system components
- Counts as one of the eight control units allowed in a GRAFIK Eye 4000 system; up to 64 zones per system

Available finishes

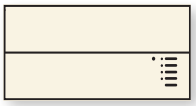


Use **BOLD** color code in model number (Example: GRX-4108-T- **WH**)

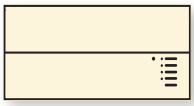
Architectural matte finishes



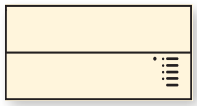
WH
White F
Black B



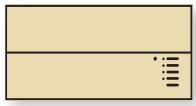
LA
Light Almond F
Black B



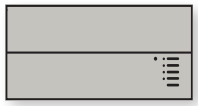
AL
Almond F
Black B



BE
Beige F
Black B

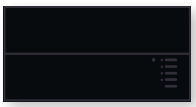


IV
Ivory F
Black B



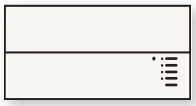
GR
Gray F
Black B

BR
Brown F
Black B

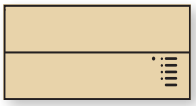


BL
Black F
Black B

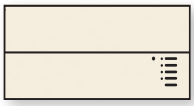
Designer gloss finishes†



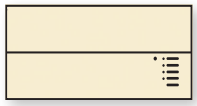
GWH
White F
Black B



GIV
Ivory F
Black B



GLA
Light Almond F
Black B



GAL
Almond F
Black B

Color code indicates faceplate color.

* Finishes available with matching top only

** Finishes available with translucent top only.

Available finishes

Architectural metal finishes†

BN
Bright Nickel **F**
Black **B**

BC
Bright Chrome **F**
Black **B**

CLA
Clear Anodized Aluminum **F**
Black **B**

SC
Satin Chrome **F**
Black **B**

SN
Satin Nickel **F**
Black **B**

QZ
Antique Bronze **F**
Black **B**

BB
Bright Brass **F**
Black **B**

BRA
Brass Anodized Aluminum **F**
Black **B**

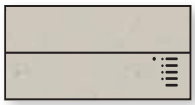
SB
Satin Brass **F**
Black **B**

QB
Antique Brass **F**
Black **B**

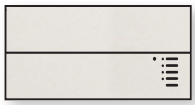
BLA
Black Anodized Aluminum **F**
Black **B**

Satin finishes*

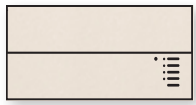
SW
Snow **F**
Black **B**



LS
Limestone **F**
Black **B**

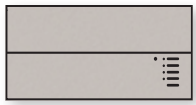


BI
Biscuit **F**
Black **B**

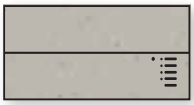


ES
Eggshell **F**
Black **B**

PD
Palladium **F**
Black **B**



TP
Taupe **F**
Black **B**



ST
Stone **F**
Black **B**

BG
Bluestone **F**
Black **B**

PL
Plum **F**
Black **B**

TQ
Turquoise **F**
Black **B**

GS
Goldstone **F**
Black **B**

DS
Desert Stone **F**
Black **B**

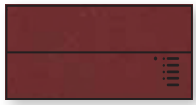
GB
Greenbriar **F**
Black **B**

MS
Mocha Stone **F**
Black **B**

TC
Terracotta **F**
Black **B**

SI
Sienna **F**
Black **B**

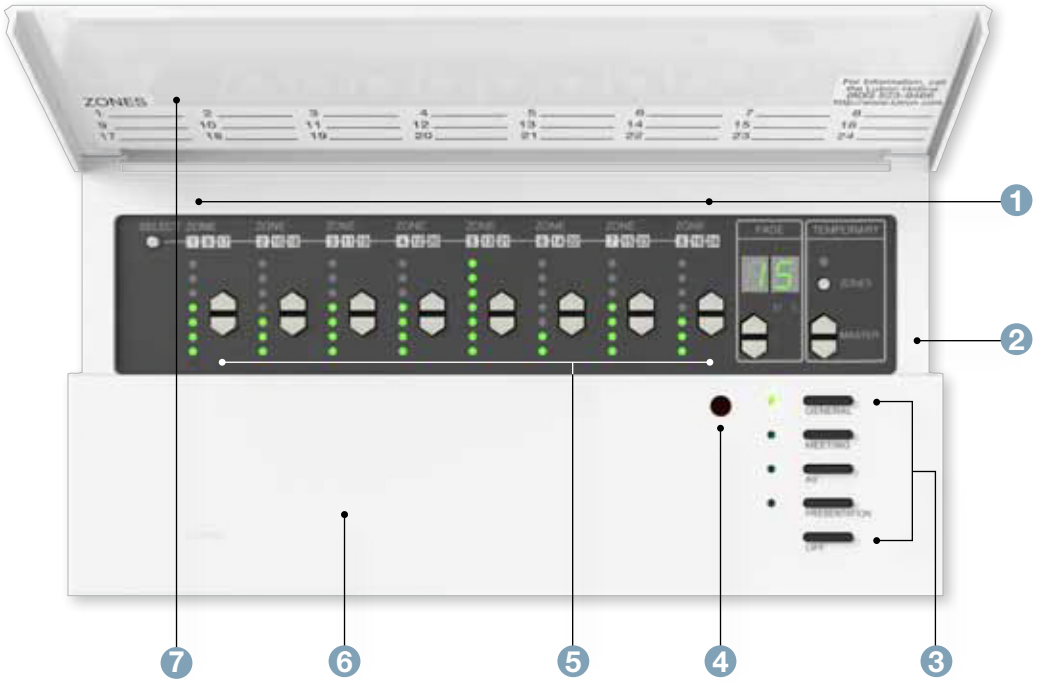
HT
Hot **F**
Black **B**



MR
Merlot **F**
Black **B**

MN
Midnight **F**
Black **B**

Explanation of features



GRAFIK Eye 4500 series 24-zone control unit with top open

	Features
1 Multiple lighting zones	• Controls 2, 3, 4, 6, 8, 16 or 24 zones of lighting
2 Master override buttons	• Temporarily raise/lower light levels of an entire scene
3 Scene control buttons	• 1-4 scenes and off
4 Infrared (IR) receiver	• Allows IR connectivity to handheld IR remotes (50 ft range, line-of-sight); IR input located on front of control unit
5 Zone control scene buttons	• Raise/lower each zone of lights • LEDs indicate light level

Available models

2-zone

3-zone

4-zone

6-zone

8-zone

16-zone

24-zone

Model numbers

GRAFIK Eye 4100 series control unit—through button-press programming

2-zone	GRX-4102-A-**XX**[1]-**E**[1]
2-zone (Japan)	GRX-4102-A-JA-**XX**[1]-**E**[1]
2-zone, translucent top	GRX-4102-T-**XX**[1]-**E**[1]
2-zone, translucent top (Japan)	GRX-4102-T-JA-**XX**[1]-**E**[1]
3-zone	GRX-4103-A-**XX**[1]-**E**[1]
3-zone (Japan)	GRX-4103-A-JA-**XX**[1]-**E**[1]
3-zone, translucent top	GRX-4103-T-**XX**[1]-**E**[1]
3-zone, translucent top (Japan)	GRX-4103-T-JA-**XX**[1]-**E**[1]
4-zone	GRX-4104-A-**XX**[1]-**E**[1]
4-zone (Japan)	GRX-4104-A-JA-**XX**[1]-**E**[1]
4-zone, translucent top	GRX-4104-T-**XX**[1]-**E**[1]
4-zone, translucent top (Japan)	GRX-4104-T-JA-**XX**[1]-**E**[1]
6-zone	GRX-4106-A-**XX**[1]-**E**[1]
6-zone (Japan)	GRX-4106-A-JA-**XX**[1]-**E**[1]
6-zone, translucent top	GRX-4106-T-**XX**[1]-**E**[1]
6-zone, translucent top (Japan)	GRX-4106-T-JA-**XX**[1]-**E**[1]
8-zone	GRX-4108-A-**XX**[1] -**E**[1]
8-zone (Japan)	GRX-4108-A-JA-**XX**[1] -**E**[1]
8-zone, translucent top	GRX-4108-T-**XX**[1]-**E**[1]
8-zone, translucent top (Japan)	GRX-4108-T-JA-**XX**[1]-**E**[1]
16-zone	GRX-4116-A-**XX**[1]-**E**[1]
16-zone (Japan)	GRX-4116-A-JA-**XX**[1]-**E**[1]
16-zone, translucent top	GRX-4116-T-**XX**[1]-**E**[1]
16-zone, translucent top (Japan)	GRX-4116-T-JA-**XX**[1]-**E**[1]
24-zone	GRX-4124-A-**XX**[1]-**E**[1]
24-zone (Japan)	GRX-4124-A-JA-**XX**[1]-**E**[1]
24-zone, translucent top	GRX-4124-T-**XX**[1]-**E**[1]
24-zone, translucent top (Japan)	GRX-4124-T-JA-**XX**[1]-**E**[1]

Compatible with the GRAFIK Eye 4000 system

XX[1]: Gloss, Architectural matte, metal and Satin Color codes, see pg. 216

E[1]: Engraving form required with order. If engraving not desired, omit “E”

GRAFIK Eye 4500 series control unit—PC-based programming and motorized window treatment control*

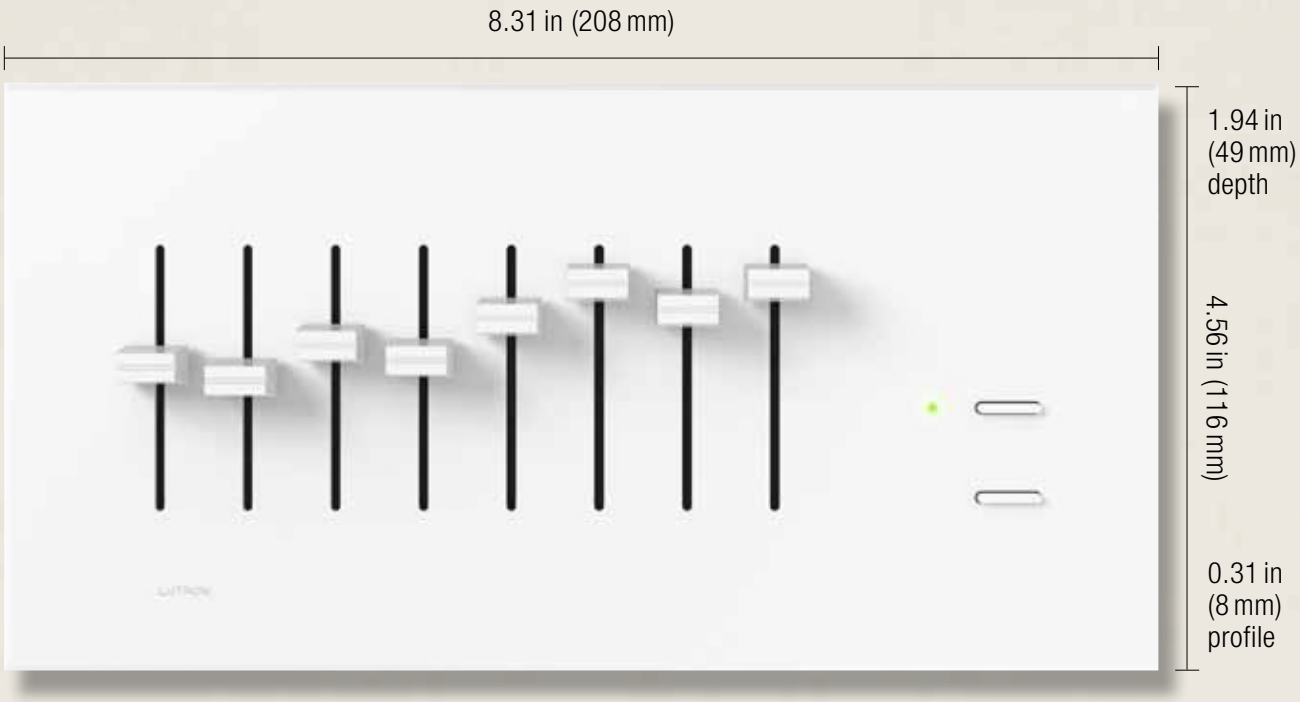
2-zone	GRX-4502-A-**XX**[1]-**E**[1]
2-zone (Japan)	GRX-4502-A-JA-**XX**[1]-**E**[1]
2-zone, translucent top	GRX-4502-T-**XX**[1]-**E**[1]
2-zone, translucent top (Japan)	GRX-4502-T-JA-**XX**[1]-**E**[1]
3-zone	GRX-4503-A-**XX**[1]-**E**[1]
3-zone (Japan)	GRX-4503-A-JA-**XX**[1]-**E**[1]
3-zone, translucent top	GRX-4503-T-**XX**[1]-**E**[1]
3-zone, translucent top (Japan)	GRX-4503-T-JA-**XX**[1]-**E**[1]
4-zone	GRX-4504-A-**XX**[1]-**E**[1]
4-zone (Japan)	GRX-4504-A-JA-**XX**[1]-**E**[1]
4-zone, translucent top	GRX-4504-T-**XX**[1]-**E**[1]
4-zone, translucent top (Japan)	GRX-4504-T-JA-**XX**[1]-**E**[1]
6-zone	GRX-4506-A-**XX**[1]-**E**[1]
6-zone (Japan)	GRX-4506-A-JA-**XX**[1]-**E**[1]
6-zone, translucent top	GRX-4506-T-**XX**[1]-**E**[1]
6-zone, translucent top (Japan)	GRX-4506-T-JA-**XX**[1]-**E**[1]
8-zone	GRX-4508-A-**XX**[1]-**E**[1]
8-zone (Japan)	GRX-4508-A-JA-**XX**[1]-**E**[1]
8-zone, translucent top	GRX-4508-T-**XX**[1]-**E**[1]
8-zone, translucent top(Japan)	GRX-4508-T-JA-**XX**[1]-**E**[1]
16-zone	GRX-4516-A-**XX**[1]-**E**[1]
16-zone(Japan)	GRX-4516-A-JA-**XX**[1]-**E**[1]
16-zone, translucent top	GRX-4516-T-**XX**[1]-**E**[1]
16-zone, translucent top (Japan)	GRX-4516-T-JA-**XX**[1]-**E**[1]
24-zone	GRX-4524-A-**XX**[1]-**E**[1]
24-zone (Japan)	GRX-4524-A-JA-**XX**[1]-**E**[1]
24-zone, translucent top	GRX-4524-T-**XX**[1]-**E**[1]
24-zone, translucent top (Japan)	GRX-4524-T-JA-**XX**[1]-**E**[1]

Compatible with the GRAFIK Eye 4000 system

XX[1]: Gloss, Architectural matte, metal and Satin Color codes, see pg. 216

E[1]: Engraving form required with order. If engraving not desired, omit "E"

* Control interface required for motorized window treatment control



Shown above: GRAFIK Eye 4100 8-zone slider control unit in White (GRXSLD-4108-WH)

Download specification submittal

Features and capacities

- Serves as a control unit for up to eight zones of lighting
- Loads are controlled through GP, XP, LP, DCI and/or CCP power panels (see pg. 158-209)
- Allows set up of lighting scenes using buttons on the control unit
- Provides push-button recall of a single lighting scene plus off on control unit
- Stores up to 11 additional user-programmable scenes plus two panic scenes
- Scenes can also be recalled via a keypad/ wallstation and/or control interface
- Allows full range dimming plus slide-to-off utilizing zone sliders
- Provides a user-selective master slider
- Light levels fade smoothly between scenes
- Fade time can be set differently for each scene, between 0-59 second or 1-60 minute
- Operates at 24 V DC off the link
- Engraving available

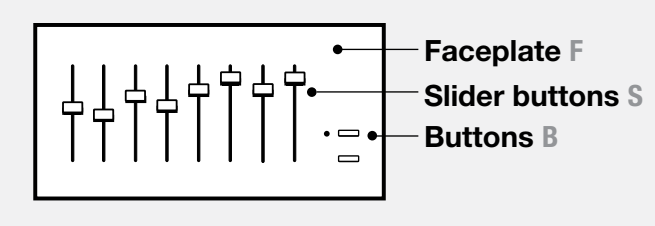
Dimensions and mounting

- 3- and 4-zone:
  Width: 6.69 in (168 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)
- 6- and 8-zone:
  Width: 8.31 in (208 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.94 in (49 mm)
  Profile: 0.31 in (8 mm)
- 3- and 4-zone control unit mounts into a 3-gang U.S. wallbox, 3.50 in (90 mm) deep
- 6- and 8-zone control units mount into a 4-gang U.S. wallbox, 3.50 in (90 mm) deep

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 wired communication to panels and other system components
- Counts as one of the eight control units allowed in a GRAFIK Eye 4000 system; up to 64 zones per system

Available finishes



Use **BOLD** color code in model number (Example: GRXSLD-4108-**WH**)

Architectural matte finishes

WH
White F, S, B

BE
Beige F, B
Black S

IV
Ivory F, B
Black S

GR
Gray F. B
Black S

BR
Brown F, B
Black S

BL
Black F, S, B

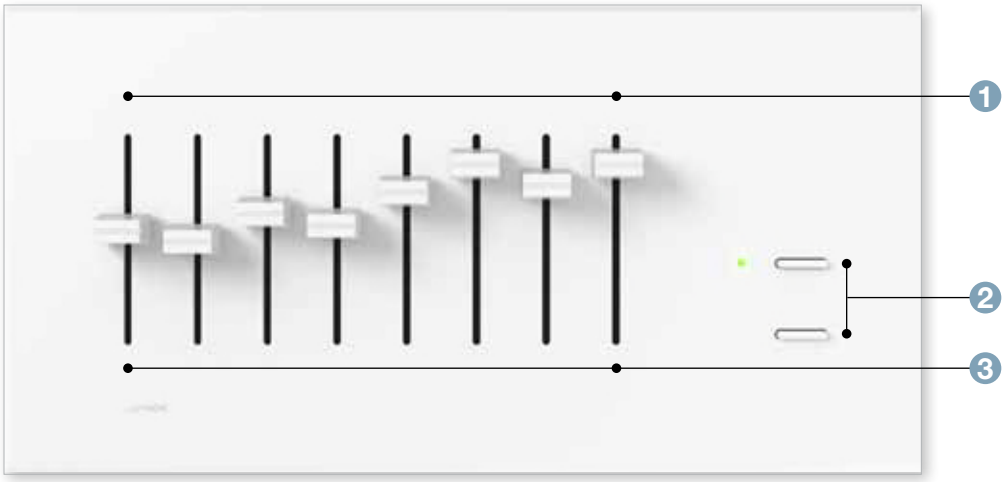
Architectural metal finishes

BB
Bright Brass F
Black S, B

BC
Bright Chrome F
Black S, B

SB
Satin Brass F
Black S, B

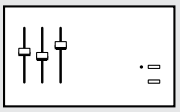
Explanation of features



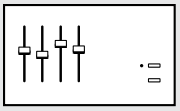
Shown above: GRAFIK Eye 4100 8-zone slider control unit in White

	Features
1 Multiple lighting zones	• Controls 3, 4, 6, or 8 zones of lighting
2 Scene 1 and Off buttons	• Ability to recall a favorite lighting scene and turn all lights off
3 Zone control sliders	• Raise or lower each group of lights

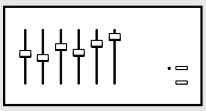
Available models



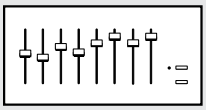
3-zone



4-zone



6-zone



8-zone

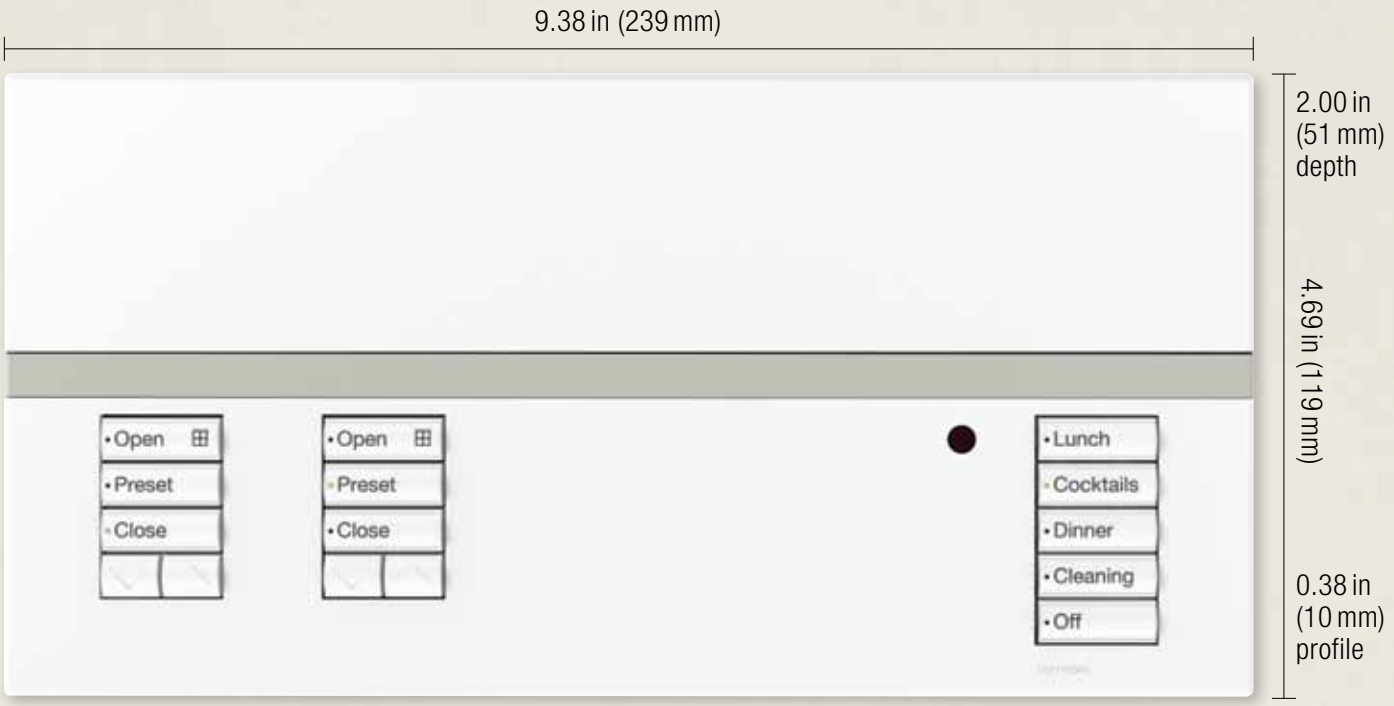
Model numbers

GRAFIK Eye 4000 series slider control units

3-zone	GRXSLD-4103-**XX**[1]
3-zone, (Japan)	GRXSLD-4103-JA**XX**[1]
4-zone	GRXSLD-4104-**XX**[1]
4-zone, (Japan)	GRXSLD-4104-JA**XX**[1]
6-zone	GRXSLD-4106-**XX**[1]
6-zone, (Japan)	GRXSLD-4106-JA**XX**[1]
8-zone	GRXSLD-4108-**XX**[1]
8-zone, (Japan)	GRXSLD-4108-JA**XX**[1]

Compatible with the GRAFIK Eye® 4000 system

XX[1]: Architectural matte and metal finish color codes, see pg. 222



Shown above: GRAFIK Eye QS main unit with two 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	Direct lighting loads	Direct lighting loads
Incandescent/halogen	Incandescent/halogen	Fluorescent/LED (DALI)
Magnetic low-voltage	Magnetic low-voltage	
Tu-Wire® fluorescent	Fluorescent/LED (EcoSystem)	
LED (2-wire forward phase)	Tu-Wire® fluorescent	
Neon/cold cathode	LED (2-wire forward phase)	
Non-dim lighting	Neon/cold cathode	
Cree® LR4/LR6 LED	Non-dim lighting	
	Lutron electronic low-voltage transformer (240V only)	
	Cree® LR4/LR6 LED	

Download specification submittal for GRAFIK Eye QS main unit

Download specification submittal for GRAFIK Eye QS main unit with EcoSystem/DALI

Download high resolution product image

*For 230V applications, Lutron ELV transformers may be used without an interface, see pg. 656.

Features and capacities

- Models available for 120V, 230V (CE) and 220-240V (non-CE) @ 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 control in low-light conditions
- High-end trim adjustment sets maximum light/energy level for each zone
- Built-in astronomic time clock 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 group
- Shade operations can be linked to scenes
- For information on engraving, text symbols, or backlit buttons/backlit text, see pgs. 667-668

Dimensions and mounting

- Width: 9.38in (239mm)
  Height: 4.69in (119mm)
  Depth: 2.00in (51mm)
  Profile: 0.38in (10mm)
- Mounts in a 4-gang U.S. backbox, 3.50in (89mm) deep

Communication and wiring

- GRAFIK Eye QS wireless main unit can communicate with up to 30 wireless devices via Lutron® reliable Clear Connect RF technology
- Wireless devices must be located within a 30ft range of the main unit; add a QS sensor module to extend RF range
- Wireless models available for operation at 434MHz, 434 limited channel MHz, 865MHz, 868MHz, or 868 limited channel MHz band
- Communicates to ballasts, modules, and LED drivers on the EcoSystem digital link, and via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- Each QS link on a Quantum or HomeWorks® QS processor can have up to 99 devices and 512 switch legs; each GRAFIK Eye QS unit and each assigned zone count toward the limit
- Supplies three power draw units on the QS link in Quantum system

Line-voltage load capacity

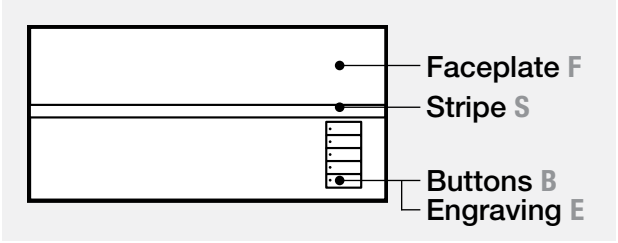
Total unit maximum capacity:

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

Individual triac zone maximum capacity:

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

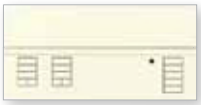
Available finishes



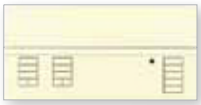
Use **BOLD** color code in model number (Example: QSGRJ-3P-**WH**)

Architectural matte finishes*

WH
White F, B
Gray S, E

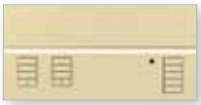


LA
Light Almond F, B
Almond S
Gray E



AL
Almond F, B
Light Almond S
Gray E

BE
Beige F, B
Ivory S
Gray E



IV
Ivory F, B
Beige S
Gray E

GR
Gray F, B
Black S
White E

BR
Brown F, B
Black S
White E

BL
Black F, B
Gray S
White E

Architectural metal finishes*

BN
Bright Nickel F
Black S, B
White E

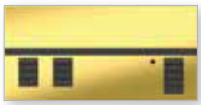
BC
Bright Chrome F
Black S, B
White E

CLA
Clear Anodized
Aluminum F
Black S, B
White E

SC
Satin Chrome F
Black S, B
White E

SN
Satin Nickel F
Black S, B
White E

QZ
Antique Bronze F
Black S, B
White E



BB
Bright Brass F
Black S, B
White E

BRA
Brass Anodized
Aluminum F
Black S, B
White E

SB
Satin Brass F
Black S, B
White E

QB
Antique Brass F
Black S, B
White E

BLA
Black Anodized
Aluminum F
Black S, B
White E

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

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

Satin finishes*

SW
Snow F, B
Gray S, E

LS
Limestone F
Gray S, B, E

BI
Biscuit F, B
Eggshell S
Gray E

ES
Eggshell F, B
Beige S
Gray E

PD
Palladium F
Gray S, B, E

TP
Taupe F, B
Gray S, E

ST
Stone F
Gray S, B, E

BG
Bluestone F
Gray S, B
White E

PL
Plum F
Taupe S, B
White E

SG
Sea Glass F
Gray S, B, E

TQ
Turquoise F
Gray S, B
White E

GS
Goldstone F
Ivory S, B
Gray E

DS
Desert Stone F
Taupe S, B
Gray E

GB
Greenbriar F
Gray S, B
White E

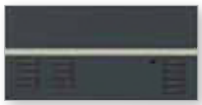
MS
Mocha Stone F
Taupe S, B
White E

TC
Terracotta F
Taupe S, B
White E

SI
Sienna F
Brown S, B
White E

HT
Hot F
Taupe S, B
White E

MR
Merlot F
Taupe S, B
White E



MN
Midnight F
Gray S
Black B
White E

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

TWH
White F, S, B
Translucent top
Gray E

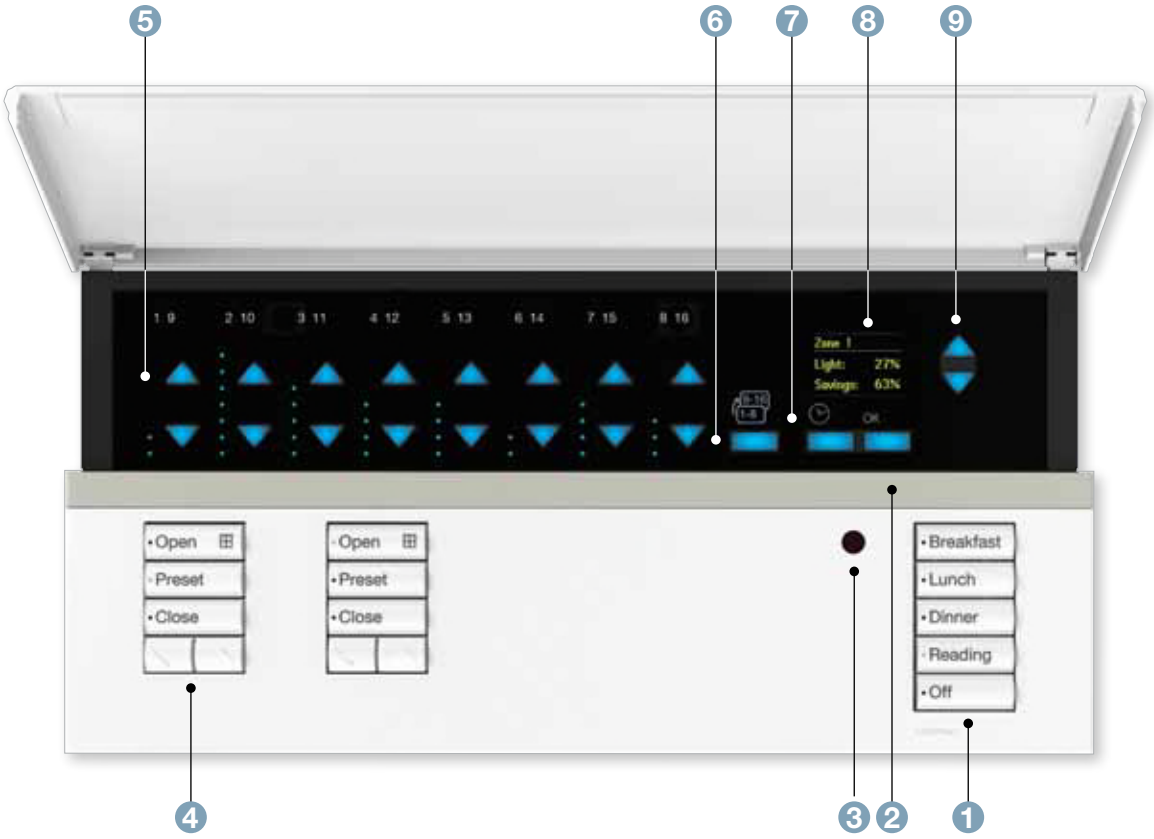
TBC
Bright Chrome F
Translucent top
Black S, B
White E

TLS
Limestone F
Translucent top
Gray S, B, E

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

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

Text engraving color varies by button color. Lighter colored buttons use gray text and darker colored buttons use white text. Visit **www.lutron.com/engraving** or see pg. 667 for additional information.



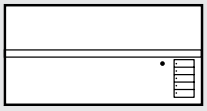
GRAFIK Eye QS with EcoSystem® main unit with top open

Explanation of features

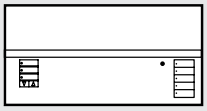
Features	Quantum®	HomeWorks® QS
1 Scene control buttons	• 1-4 scenes and off • Buttons available with configurable fade times • Can be configured to control any lights wired to devices on the QS link	• Buttons can be programmed via software and act as HomeWorks® QS keypads • Can also be used for local 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)	• Able to communicate via wireless link or QS wired link with other system devices including sensors and keypads
3 Infrared (IR) receiver	• Allows IR connectivity to handheld IR remotes (50 ft 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 main units (30 ft range)	• Buttons can be programmed via software and act as HomeWorks QS keypads for any function • Can also be used for local scenes
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 control lights wired to the main unit • Zones can be programmed to function as HomeWorks QS dimmer or switch 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 and DALI models not available for use with HomeWorks QS
7 Astronomic time clock	• Time clock disabled in Quantum® system; time clock programmed through Quantum software	• Time clock disabled in HomeWorks QS system; use system time clock in processor
8 Information display/ user interface	• Energy savings (as % of energy used) • Lighting levels • Programming information	
9 Master override backlit buttons	• Temporarily raise/lower light levels of an entire scene	

Available models

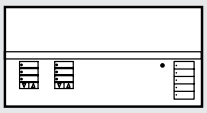
- Non-EcoSystem/DALI models are available with 3, 4, or 6 lighting zones
- EcoSystem® and DALI models are available with 6, 8, or 16 lighting zones
- All models are available with 0, 1, 2, or 3 shade columns



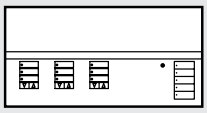
0 shade columns



1 shade column



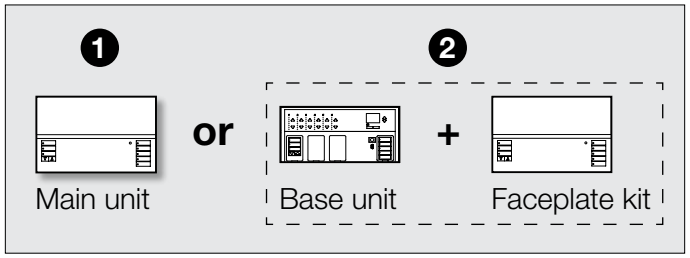
2 shade columns



3 shade columns

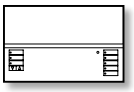
How to select a model number

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



1. **Main unit**: Order a main unit when the installation requires 0 or 1 shade group and unit finish desired is White.
2. **Base unit and faceplate kit**: Order a base unit and a faceplate kit individually when the installation requires two or three 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, 0 shade zones	QSGRJ-3P-TWH
Matte white, 1 shade zone	QSGRJ-3P-1WH
Matte white, translucent top, 1 shade zone	QSGRJ-3P-1TWH

4 lighting zones

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

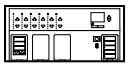
6 lighting zones

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

TWH models include translucent top; stripe color will complement base unit.

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

Compatible with HomeWorks® QS and Quantum® 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

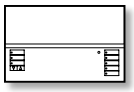
Base units require a faceplate kit for operation.

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

Compatible with HomeWorks QS and Quantum systems

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.

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

8 lighting zones

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

16 lighting zones

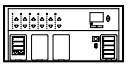
Matte white, 0 shade zones	QSGRJ-16E-WH
Matte white, translucent top, 0 shade zones	QSGRJ-16E-TWH
Matte white, 1 shade zone	QSGRJ-16E-1WH
Matte white, translucent top, 1 shade zone	QSGRJ-16E-1TWH

TWH models include translucent top; stripe color will complement base unit.

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

Compatible with the Quantum® system

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.



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

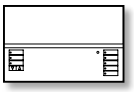
Wireless-434 MHz	QSGRJ-16E
Wireless-434 limited channel MHz	QSGRQ-16E
Wired	QSGR-16E

Base units require a faceplate kit for operation.

120 V units are standard phase control, 800 W/channel, 2000 W total (220-24 V units are 1200 W/channel, 3000 W total).

Compatible with the Quantum system

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

4 lighting zones

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

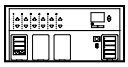
6 lighting zones

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

TWH models include translucent top; stripe color will complement base unit.

Standard phase control 500 W/channel, 1500-2300 W total based on number of zones.

Compatible with HomeWorks® QS and Quantum® system



GRAFIK Eye QS base unit

230 V @ 50 Hz

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

3 lighting zones

Wireless (CE) - 868 MHz	QSGRK-3PCE
Wireless (CE) - 868 MHz limited channel MHz	QSGRM-3PCE
Wired (CE)	QSGR-3PCE

4 lighting zones

Wireless (CE) - 868 MHz	QSGRK-4PCE
Wireless (CE) - 868 MHz 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 MHz limited channel MHz	QSGRM-6PCE
Wireless (CE) - 434 MHz limited channel MHz	QSGRQ-6PCE
Wired (CE)	QSGR-6PCE

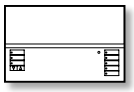
Base units require a faceplate kit for operation.

Standard phase control 500 W/channel, 1500-2300 W total based on number of zones.

Compatible with HomeWorks QS and Quantum system

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.

Model numbers for 230 V devices



GRAFIK Eye QS wireless main unit with DALI

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

6 lighting zones

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

8 lighting zones

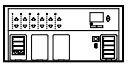
Matte white, 0 shade zones	QSGRK-8D-WH
Matte white, translucent top, 0 shade zones	QSGRK-8D-TWH
Matte white, 1 shade zone	QSGRK-8D-1WH
Matte white, translucent top 1 shade zone	QSGRK-8D-1TWH

16 lighting zones

Matte white, 0 shade zones	QSGRK-16D-WH
Matte white, translucent top 0 shade zones	QSGRK-16D-TWH
Matte white, 1 shade zone	QSGRK-16D-1WH
Matte white, translucent top 1 shade zone	QSGRK-16D-1TWH

TWH models include translucent top; stripe color will complement base unit.

Compatible with the Quantum® system



GRAFIK Eye QS with DALI base unit

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

6 lighting zones

Wireless (CE) - 868 MHz limited channel MHz	QSGRM-6D
Wireless (CE) - 868 MHz	QSGRK-6D
Wired (CE)	QSGR-6D

8 lighting zones

Wireless (CE) - 868 MHz limited channel MHz	QSGRM-8D
Wireless (CE) - 868 MHz	QSGRK-8D
Wired (CE)	QSGR-8D

16 lighting zones

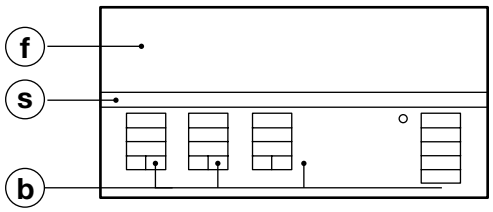
Wireless (CE) - 868 MHz limited channel MHz	QSGRM-16D
Wireless (CE) - 868 MHz	QSGRK-16D
Wired (CE)	QSGR-16D

Base units require a faceplate kit for operation.

Compatible with the Quantum system

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.

Faceplate and button kit model numbers



seeTouch® QS GRAFIK Eye QS

f faceplate color option
s stripe color option
b button color option

Faceplate kit

0 shade zones

Faceplate kit	QSGFP-**XX**[1]-**EEE**[1]
Faceplate kit, translucent top	QSGFP-T-**XX**[1]-**EEE**[1]

1 shade zone

Faceplate kit	QSGFP-1-**XX**[1]-**EEE**[1]
Faceplate kit, translucent top	QSGFP-1T-**XX**[1]-**EEE**[1]

2 shade zones

Faceplate kit	QSGFP-2-**XX**[1]-**EEE**[1]
Faceplate kit, translucent top	QSGFP-2T-**XX**[1]-**EEE**[1]

3 shade zones

Faceplate kit	QSGFP-3-**XX**[1]-**EEE**[1]
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 Eye QS models

Stripe and button kits

Stripe kits

Stripe kit	QSGS-**XX**[1]

3-button

3-button with raise/lower replacement kit (shade buttons)	QSGB-3BRL-**XX**[2]-**EEE**[1]

5-button

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

Compatible with all GRAFIK Eye QS models

XX[1]: Architectural matte, metal and Satin Colors® codes, see pgs. 632
XX[2]: Architectural matte color codes, see pg. 632
EEE[1]: Engraving codes, see pgs. 667-668

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

Direct lighting loads

Fluorescent/LED (EcoSystem)

Features and capacities

- Provides control of up to 64 or 128 EcoSystem ballasts, modules and/or LED drivers (depending on the models; 64 per link)
- Powers one or two EcoSystem digital links
- Combines fine tuning, daylight harvesting, occupancy/vacancy sensing, personal control and contact closure integration in one panel
- Directly connect to and provide power for wired sensors and controls
- Expand the system by linking nodes together and sharing sensors and controls via the QS link
- Connect to Radio Powr Savr™ wireless sensors and Pico® wireless controls via the QS sensor module

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)

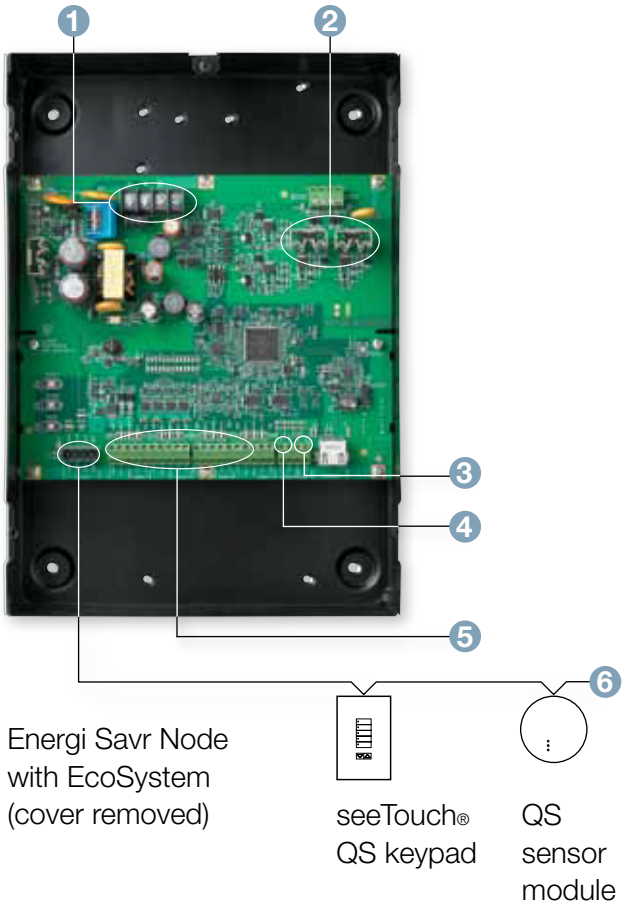
Communication and wiring

- Communicates to ballasts, modules, and LED drivers on the 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
- Each QS link on a Quantum processor can have up to 99 devices and 512 switch legs; each Energi Savr Node unit and each assigned zone counts toward the limit
- Supplies thirty power draw units on the QS link*

Download specification submittal
Download high resolution product image

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

Explanation of features



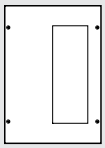
Energi Savr Node with EcoSystem (cover removed)

seeTouch® QS keypad

QS sensor module

	Features	
1	Control power	• 120-277 V
2	EcoSystem digital links	• Up to 64 EcoSystem ballasts, modules or drivers per link • Models available with one or two links
3	Emergency contact closure input	• Force all lights to 100% (by default)
4	Programmable contact closure input	• To select scene, enable after hours, or enable a demand response
5	Wired daylight sensors	• Up to four wired sensors
	Wired occupancy sensors	• Up to four wired sensors
	Wired EcoSystem and Pico® wallstations or infrared (IR) receivers	• Up to four inputs
6	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

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 one digital link	QSN-1ECO-S
EcoSystem with two digital links	QSN-2ECO-S

Compatible with the Quantum® system

For specific voltage by country information refer to voltage chart on pg. 692.

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

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

Direct lighting loads

- Fluorescent/LED (0-10V)
- Non-dim lighting
- HID
- Motor loads
- Fan loads
- 15A receptacles

Download specification submittal

Download high resolution product image of Energi Savr Node with Softswitch

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

Features and capacities

- Controls up to four 16A circuits of lighting loads (switched relay or 0-10V dimming)
- Provides easy integration of occupancy sensors, daylight sensors, and digital light controls
- Expand the system by linking nodes together and sharing sensors and controls via the QS link
- Connect to Radio Powr Savr™ wireless sensors and Pico® wireless controls via QS sensor module
- Directly connect to and provide power for wired sensors and controls
- Softswitch relay is rated for 16A continuous use, which is the maximum continuous load for a 20A overcurrent protection device

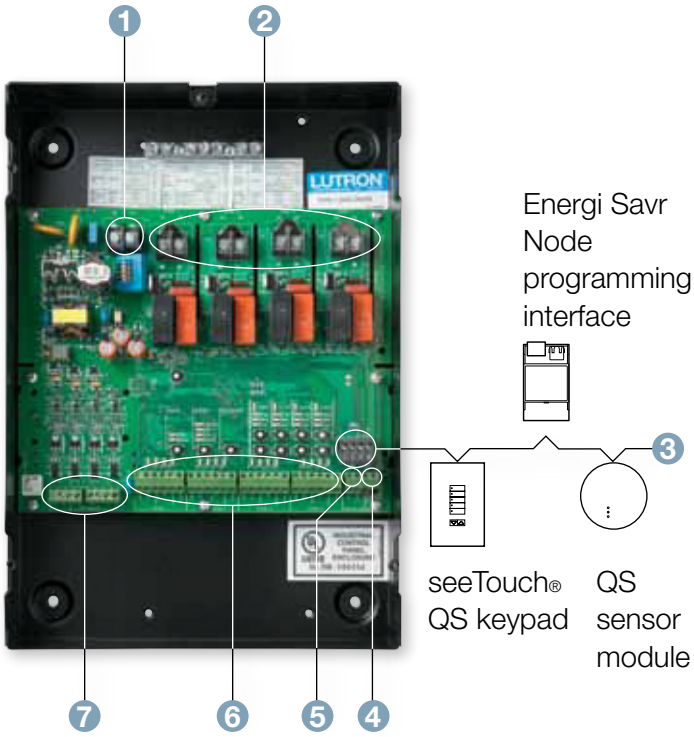
Dimensions and mounting

- Width: 9.25 in (235 mm)
  Height: 13.25 in (337 mm)
  Depth: 3.16 in (80 mm)
- Surface mount
- Approved for installation in spaces designed for air handling per NEC article 300.22(c)

Communication and wiring

- Communicates via low-voltage IEC PELV/ NEC Class 2 wire to QS components on the QS link
- Requires QS sensor module for wireless communication
- Each QS link on a Quantum processor can have up to 99 devices and 512 switch legs; each Energi Savr Node unit and each assigned zone count toward the limit
- Supplies fourteen power draw units on the QS link*

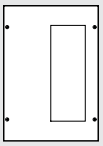
Explanation of features



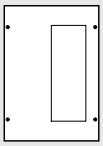
Energi Savr Node for 0-10V (cover removed)

	Features	
1	Control power	• 120-277V
2	Switched load outputs	• Four feed-through Softswitch relays • 120-277V, 347V
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	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 four wired sensors
	Wired occupancy sensors	• Up to four wired sensors
	Wired EcoSystem® and Pico wallstations or IR receivers	• Up to four inputs
	Wired IEC PELV/NEC Class 2 dry contact switches	• Up to four dry contact closure inputs
7	0-10V channels	• Four dimming zones (0-10V only)

Available models



Energi Savr Node for 0-10V



Energi Savr Node with Softswitch

Model numbers

Energi Savr Node for 0-10V
120V, 220-240V and 277V models @ 50/60Hz

0-10V control (120-277V)	QSN-4T16-S
0-10V control (120-277V, 347V)	QSN-4T16-S-347

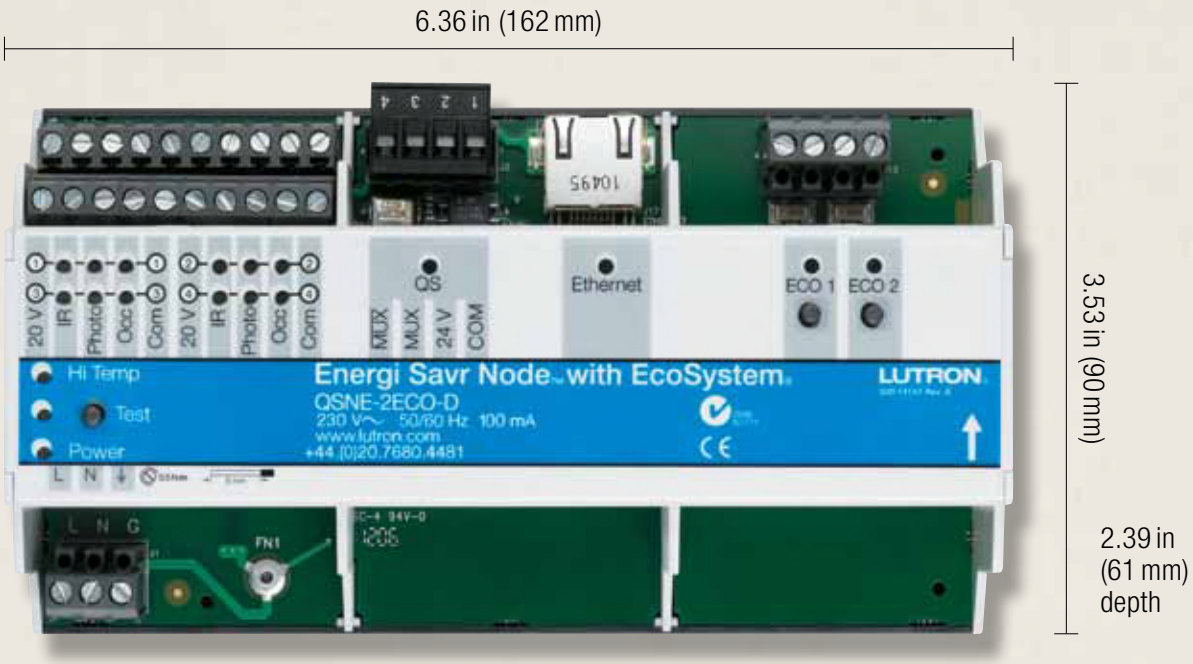
Compatible with the Quantum® system

Energi Savr Node with Softswitch
120V, 220-240V and 277V models @ 50/60Hz

Softswitch (120-277V)	QSN-4S16-S
Softswitch (120-277V, 347V)	QSN-4S16-S-347

Compatible with the Quantum system

For specific voltage by country information refer to voltage chart on pg. 692.



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 (up to 64 per EcoSystem digital link)
- 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

Dimensions and mounting

- Width: 6.36 in (162 mm)
  Height: 3.53 in (90 mm)
  Depth: 2.39 in (61 mm)
- Mounts to standard DIN-rail (width = 9.50 mm)
- 9 DIN-wide device

Communication and wiring

- Communicates to ballasts, modules, and LED drivers on the EcoSystem digital link, and via low-voltage IEC PELV/NEC Class 2 wire to QS components on the QS link
- Requires QS sensor module for wireless communication
- Each QS link on a Quantum processor can have up to 99 devices and 512 switch legs; each Energi Savr Node unit and each assigned zone counts toward the limit
- Supplies three power draw units on the QS link*

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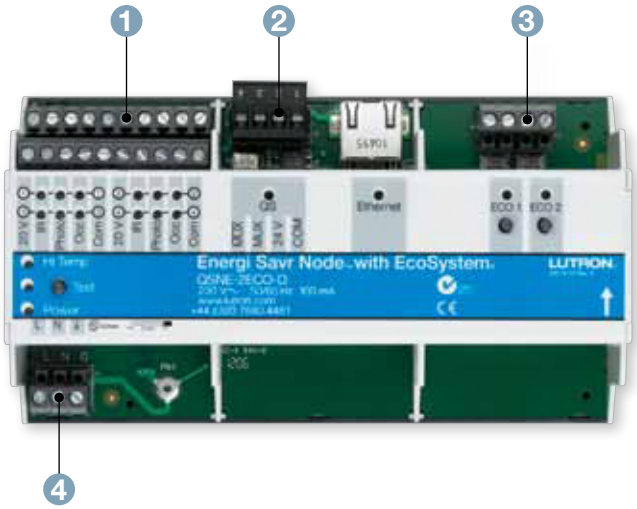
*Limitations apply when multiple Energi Savr Node devices are linked together.

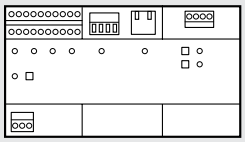
Explanation of features



Energi Savr Node with EcoSystem (DIN-rail)

	Features	
1	Wired daylight sensors	• Up to four wired sensors
	Wired occupancy sensors	• Up to four wired sensors
	Wired EcoSystem wallstations, IR receivers, or IEC PELV contact switches	• Up to four 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	EcoSystem digital links	• Up to 64 EcoSystem ballasts, modules, and drivers per link • Available with two links
4	Mains wiring	• Wiring from distribution panel to module

Available models



Energi Savr Node with EcoSystem (DIN-rail)

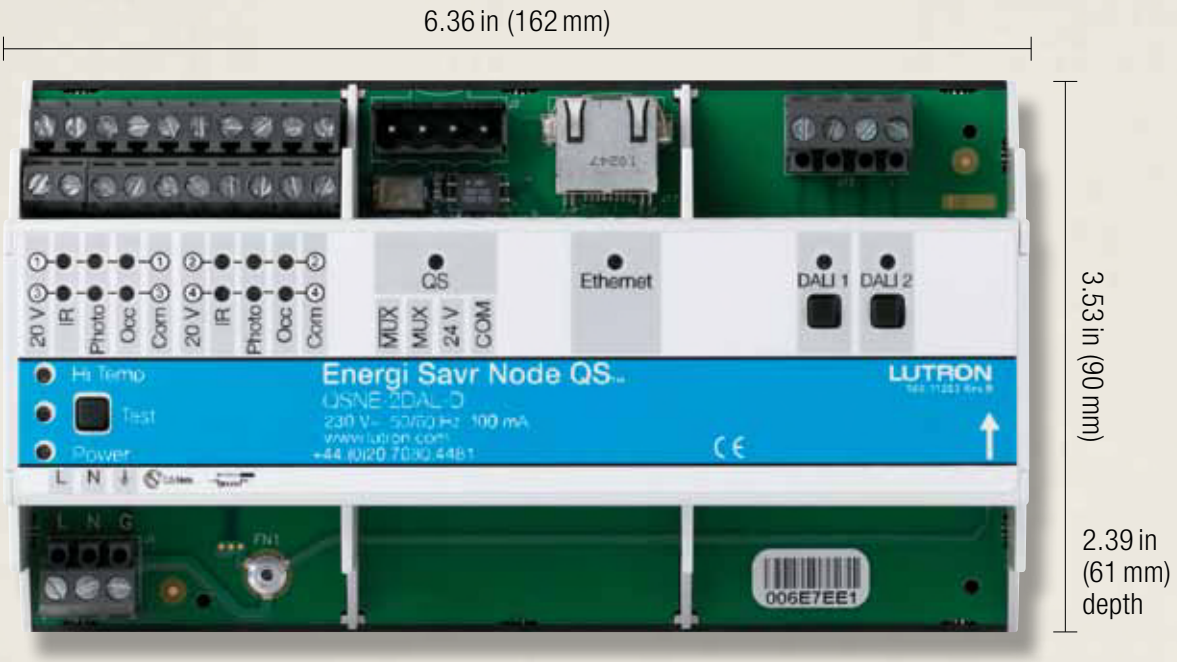
Model numbers

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

EcoSystem	QSNE-2ECO-D

Compatible with the Quantum® system

For specific voltage by country information refer to voltage chart on pg. 692.



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
- Directly connect to and provide power for wired sensors and controls

Dimensions and mounting

- Width: 6.36 in (162 mm)
  Height: 3.53 in (90 mm)
  Depth: 2.39 in (61 mm)
- Mounts to standard DIN-rail (width = 9.50 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
- Each QS link on a Quantum processor can have up to 99 devices and 512 switch legs; each Energi Savr Node QS unit and each assigned zone counts toward the limit
- Supplies three power draw units on the QS link*

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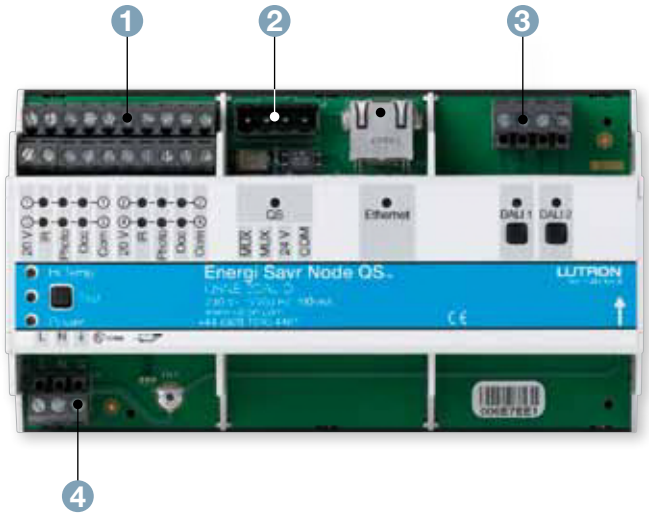
*Limitations apply when multiple Energi Savr Node devices are linked together.

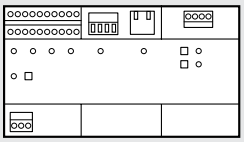
Explanation of features



Energi Savr Node for DALI (DIN-rail)

	Features	
1	Wired daylight sensors	• Up to four wired sensors
	Wired occupancy sensors	• Up to four wired sensors
	Wired or IR receivers	• Up to four 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	DALI bus	• Connect to DALI loop
4	Mains wiring	• Wiring from distribution panel to module

Available models



Energi Savr Node for DALI (DIN-rail)

Model numbers

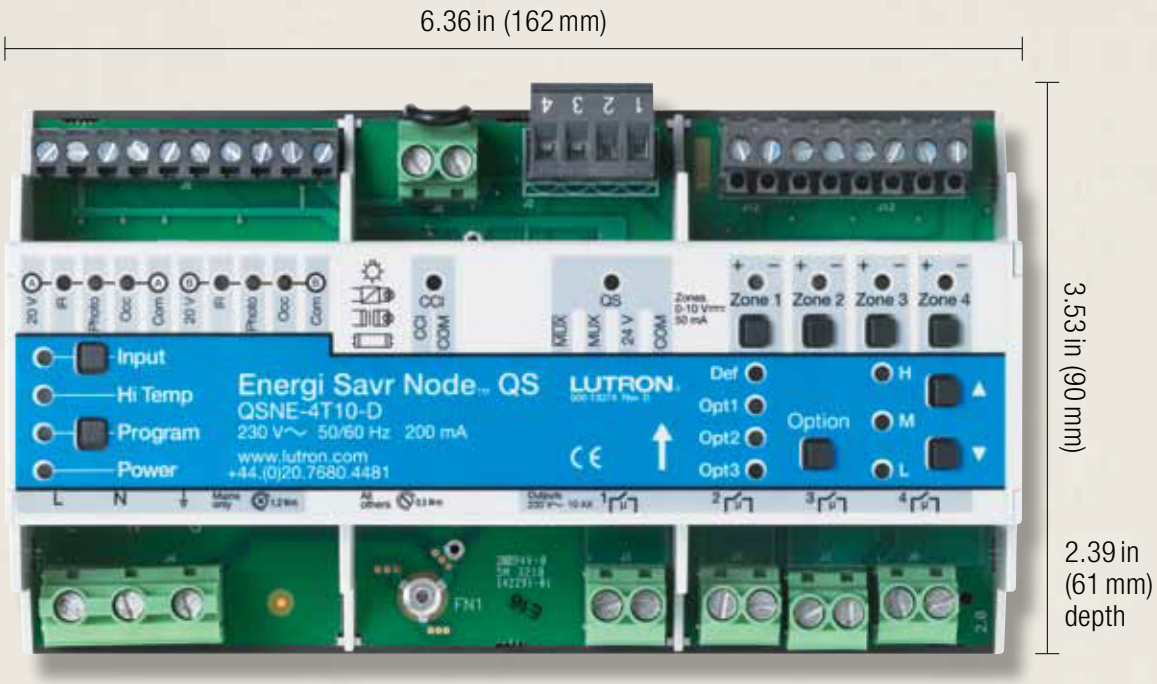
Energi Savr Node for DALI (DIN-rail)
230V(CE), 220-240V

DALI	QSNE-2DAL-D

Compatible with the Quantum system

For specific voltage by country information refer to voltage chart on pg. 692.

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



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

Direct lighting loads

- Fluorescent/LED (0-10V)
- Non-dim lighting
- HID

Features and capacities

- Controls up to four 16A circuits of lighting loads (switched relay or 0-10V dimming)
- 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: 6.36in (162mm)
  Height: 3.53in (90mm)
  Depth: 2.39in (61mm)
- Mounts to standard DIN-rail (width = 9.50mm)
- 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
- Each QS link on a Quantum processor can have up to 99 devices and 512 switch legs; each Energi Savr Node and each assigned zone counts toward the limit
- Supplies fourteen power draw units on the QS link*

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

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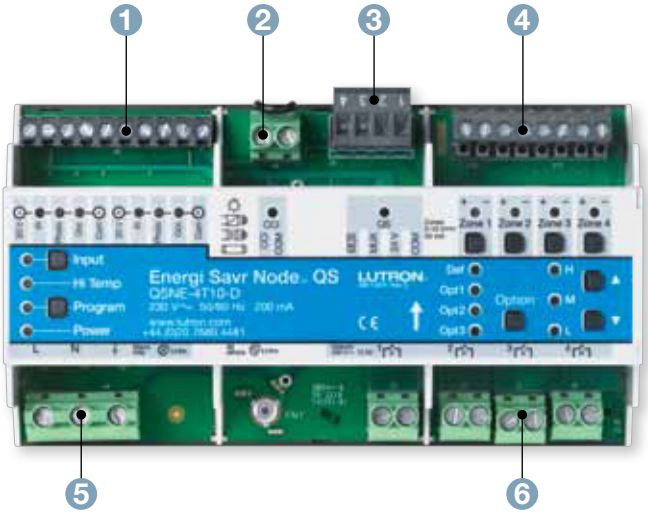
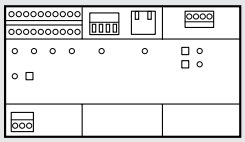
Explanation of features



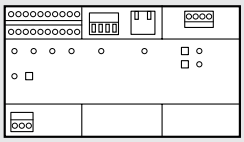
Energi Savr Node for 0-10V

	Features
1 Wired daylight sensors	• Up to two wired sensors
Wired occupancy sensors	• Up to two wired occupancy sensors
Wired IR receivers	• Up to two 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	• Four dimming zones (0-10V)
5 Mains wiring	• Wiring from distribution to bus supply
6 Switched load outputs	• Four feed-through relays • 220-240V

Available models



Energi Savr Node for 0-10V



Energi Savr Node for Switching

Model numbers

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

230V (CE), 220-240V

0-10V	QSNE-4T10-D

Compatible with the Quantum system

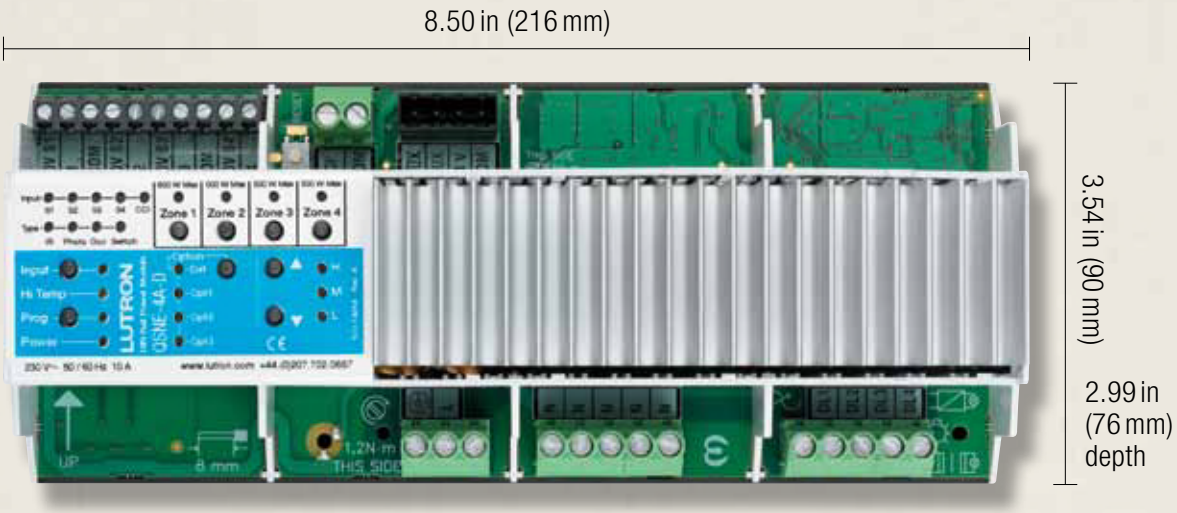
Energi Savr Node for Switching (DIN-rail)

230V (CE), 220-240V

Switching	QSNE-4S10-D

Compatible with the Quantum system

For specific voltage by country information refer to voltage chart on pg. 692.



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

Direct lighting loads

- Incandescent/halogen
- Electronic low-voltage
- Magnetic low-voltage
- Neon/cold cathode
- CFL/LED (screw-base)[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 minimum load requirement; one load type per zone
- Automatically selects leading edge or trailing edge dimming
- Four multi-functional inputs that are compatible with wired occupancy/vacancy sensors, daylight sensors, IR receivers, or IEC PELV switches
- Connect to Radio Powr Savr™ wireless sensor and Pico® wireless controls via QS sensor module
- Expand the system by linking nodes together and sharing sensors and controls via the QS link

Dimensions and mounting

- Width: 8.50 in (216 mm)
  Height: 3.54 in (90 mm)
  Depth: 2.99 in (76 mm)
- Mounts to standard DIN-rail (width = 9.50 mm)
- 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
- Each QS link on a Quantum processor can have up to 99 devices and 512 switch legs; each Energi Savr Node and each assigned zone counts toward the limit
- Supplies four power draw units on the QS link[2]

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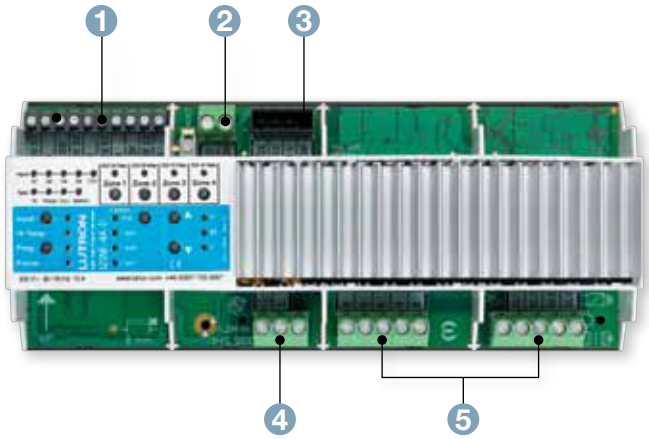
[1] Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with this module*

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

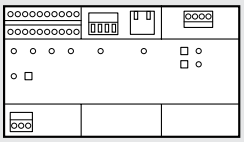
Explanation of features



Energi Savr Node phase adaptive (DIN-rail)

	Features
1 Multi-function inputs	• Four 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

Available models



Energi Savr Node phase adaptive (DIN-rail)

Model numbers

Energi Savr Node phase adaptive (DIN-rail)
230 V (CE), 220-240 V

Phase adaptive	QSNE-4A-D
Compatible with the Quantum® system	

For specific voltage by country information refer to voltage chart on pg. 692.

Shown actual size: HomeWorks QS designer dimmer in White(HQRD-6D-WH) with 1-gang Claro® wallplate in White (CW-1-WH)

Direct lighting loads

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

Features and capacities

- Functions much like standard dimmers and switches, but can also 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 a single dimmer/switch for multi-location control
- Coordinating Claro, Satin Color® and Stainless Steel wallplates available separately, see pg. 640

Dimensions and mounting

- Width: 2.94 in (75 mm)
  Height: 4.69 in (119 mm)
  Depth: 1.13 in (30 mm)
  Profile: 0.31 in (8 mm)
- Mounts 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
- Operates at 434 MHz
- Must be located within 30 ft (9 m) of a hybrid repeater
- Operates at 120 V @ 50/60 Hz; dual voltage 120-277 V @ 50/60 Hz models available for fluorescent/LED dimming and non-dim lighting
- A HomeWorks QS system can have up to 99 devices per RF link

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Download high resolution product image

* Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with the adaptive dimmer.

Available finishes

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

Gloss finishes*

WH
White

LA
Light Almond

AL
Almond

IV
Ivory

GR
Gray

BR
Brown

BL
Black

Satin finishes*

SW
Snow

LS
Limestone

BI
Biscuit

ES
Eggshell

PD
Palladium

TP
Taupe

ST
Stone

BG
Bluestone

PL
Plum

TQ
Turquoise

GS
Goldstone

DS
Desert Stone

GB
Greenbriar

MS
Mocha Stone

TC
Terracotta

SI
Sienna

HT
Hot

MR
Merlot

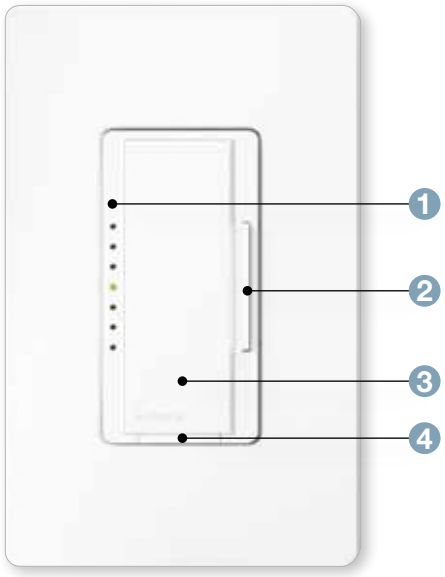
MN
Midnight

SS**
Stainless Steel
(wallplate only)

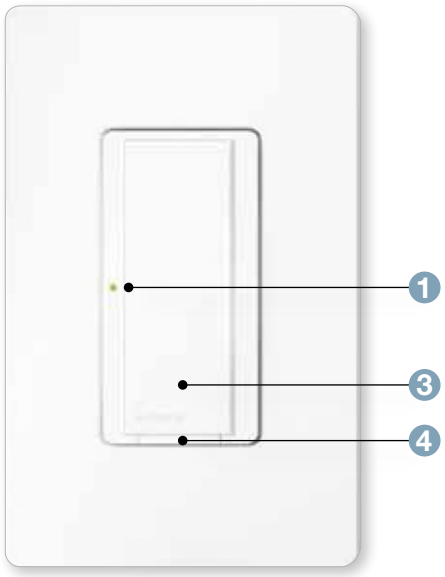
* Coordinating wallplates only available separately. For wallplate information, see pg. 642.

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

Explanation of features



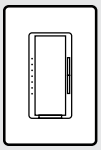
HomeWorks QS designer dimmer

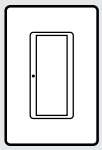


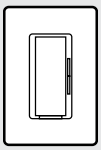
HomeWorks QS designer switch

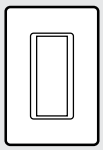
	Features
1 Status LEDs	• Indicate light level; glow softly as night light when light is off (not available on remote dimmers/switches)
2 Dimming rocker	• Press up to brighten, down to dim
3 Tapswitch	• Tap on/off
4 FASS™	• Front Accessible Service Switch to disconnect power from the load for service

Available models


Designer dimmer


Designer switch


Remote dimmer


Remote switch

Model numbers

Dimmers

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

Single-pole/multi-location 120 V 600 W/600 VA[2]	HQRD-6D-**XX**[1]
Single-pole/multi-location[1] 120 V 600 W/600 VA	HQRD-6ND-**XX**[1]
Single-pole/multi-location 120 V 1000 W/1000 VA[2]	HQRD-10D-**XX**[1]
Single-pole/multi-location[1] 120 V 1000 W/1000 VA[4]	HQRD-10ND-**XX**[1]
Single-pole/multi-location adaptive[1] 120 V 600 W/600 VA[3]	HQRD-6NA-**XX**[1]

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 HomeWorks QS system

XX[1]: Gloss and Satin color codes, see pg. 256 (Wallplates not included, order separately, see pg. 642)

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.

Dimmers

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

Single-pole/multi-location adaptive[1] HQRD-6NA-**XX**[1]
120 V 600 W/600 VA[3]

The HQRD-6NE has been discontinued.
Compatible with HomeWorks QS system

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

Single-pole/multi-location adaptive[1] HQRD-6NA-**XX**[1]
120 V 600 W/600 VA[3]

Compatible with HomeWorks QS system

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

Single-pole/multi-location adaptive[1] HQRD-6NA-**XX**[1]
120 V 600 W/600 VA[3]

For a list of approved screw-in, dimmable LED lamps, see **www.lutron.com/LEDtool**
Compatible with HomeWorks QS system

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

Single-pole/multi-location[1] HQRD-F6AN-DV-**XX**[1]
120/277 V 6 A[3]

For use with Hi-lume 3D, EcoSystem H-Series, and EcoSystem ballasts.
Also compatible with 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 minimum load of 0.05 A
Compatible with HomeWorks QS system

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

Model numbers

Remote dimmers

Remote dimmer

Multi-location 120V	HQD-RD-**XX**[1]
Multi-location 277V	HQD-RD-277-**XX**[1]

For multi-location control, add up to nine remote dimmers to a single HomeWorks QS dimmer.

277V model for use with HQRD-F6AN-DV-XX.

Switches and remote switches

Switch

Multi-location/single-pole[1] 120V 8A light or .25HP motor 5.8A motor[3]	HQRD-8ANS-**XX**[1]
Dual-voltage, two wire electronic switch[2] 120/277V 8A light, 0.10HP 3A motor[1]	HQRD-8S-DV-**XX**[1]

Compatible with HomeWorks QS system

Remote switch

Multi-location 120V	HQD-RS-**XX**[1]
Multi-location 277V	HQD-RS-277-**XX**[1]

For multi-location control, add up to nine remote switches to a single HomeWorks QS switch.

Compatible with HomeWorks QS system

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

XX[1]: Gloss and Satin color codes, see pg. 256 (Wallplates not included, order separately, see pg. 642)

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.

[1]Requires neutral wire connection.
[2]Requires shunt capacitor.
[3]Requires minimum load of 10W/0.08A.
[4]Requires minimum load of 40W/0.04A.

Shown actual size: 5-button hybrid seeTouch keypad in White (HQRD-H5BRL-WH) and 1-gang Claro® wallplate in White (CW-1-WH)

Direct lighting loads

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

Features and capacities

- Hybrid keypads function as a dimmer and a keypad combined into a single device, and eliminate the need for extra wiring
- Keypads incorporate advanced features such as fade on/fade off and rapid full on
- Scenes can be fine-tuned by pressing and holding the raise/lower buttons to adjust lights or shades
- Backlit buttons or backlit text
- 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 Color® and Stainless Steel wallplates only available separately, see pg. 640
- For information on engraving, text symbols, or backlit buttons/backlit text, see pgs. 667-668
- Operates at 120 V
- Maximum load 450 W/450 VA 2-wire or neutral wire, 120 V
- Minimum load with neutral 15 W/15 VA
- Minimum load without neutral 50 W/50 VA

Dimensions and mounting

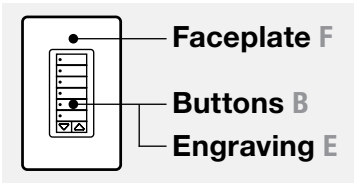
- Width: 2.94 in (75 mm)
  Height: 4.69 in (119 mm)
  Depth: 1.25 in (32 mm)
  Profile: 0.31 in (8 mm)
- Mounts into a standard 1-gang U.S. backbox

Communication and wiring

- Communicates via Lutron reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz
- Must be located within 30 ft (9 m) of a hybrid repeater
- HomeWorks QS system can have up to 99 devices per radio frequency (RF) link

Download specification submittal
Download high resolution product image
Download engraving sheet for button kits

Available finishes



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

Gloss finishes*

WH
White F, B
Gray E

LA
Light Almond F, B
Gray E

AL
Almond F, B
Gray E

IV
Ivory F, B
Gray E

GR
Gray F, B
White E

BR
Brown F, B
White E

BL
Black F, B
White E

Satin finishes*

SW
Snow F, B
Gray E

LS
Limestone F
Gray B
White E

BI
Biscuit F, B
Gray E

ES
Eggshell F, B
Gray E

PD
Palladium F
Gray B

TP
Taupe F, B
Gray E

ST
Stone F
Gray B, E

BG
Bluestone F
Gray B
White E

PL
Plum F
Taupe B
White E

TQ
Turquoise F
Gray B
White E

GS
Goldstone F
Ivory B
Gray E

DS
Desert Stone F
Taupe B
Gray E

GB
Greenbriar F
Gray B
White E

MS
Mocha Stone F
Taupe B
White E

TC
Terracotta F
Taupe B
White E

SI
Sienna F
Brown B
White E

HT
Hot F
Taupe B
White E

MR
Merlot F
Taupe B
White E

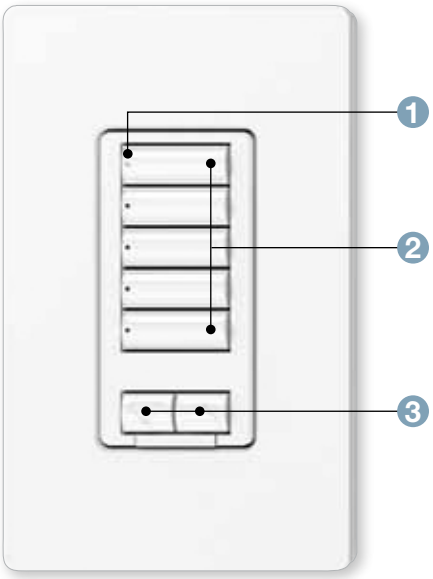
MN
Midnight F, B
White E

SS**
Stainless Steel F
Black B
White E

* Coordinating wallplates only available separately. For wallplate information, see pg. 642.

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

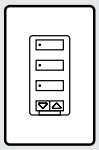
Explanation of features



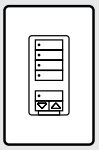
HomeWorks QS hybrid seeTouch keypad

	Features
1 Status LEDs	• Show status of lights or shades assigned to button
2 Programmable buttons	• Five buttons • Buttons provide zone, scene, and shade control
3 Raise/lower buttons	• Lights increase or decrease in intensity or shades/draperies move towards the open/close limit

Available models

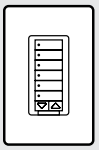


3-button with raise/lower

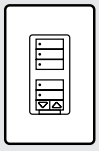


4-scene with raise/lower

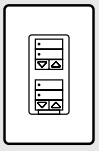
5-button with raise/lower



6-button with raise/lower



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



2-button dual keypad with raise/lower

Model numbers

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

(434 MHz)

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

2-wire or neutral dimmer.

Compatible with HomeWorks QS system

Engraved replacement kits

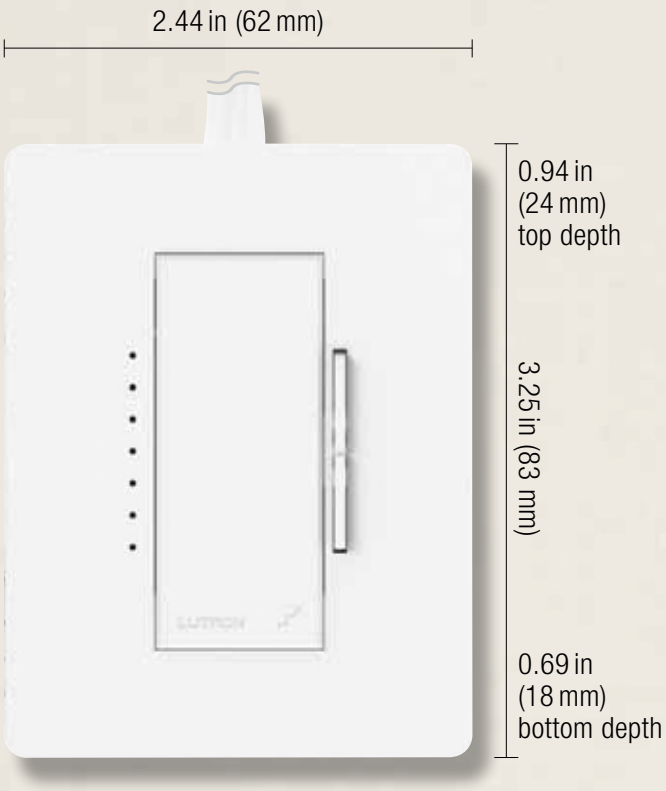
3-button with raise/lower keypad and 120V, 450W/450VA dimmer	RKD-H3BSRL-**XX**[1]-E[1]
4-button with raise/lower keypad and 120V, 450W/450VA dimmer	RKD-H4S-**XX**[1]-E[1]
5-button with raise/lower keypad and 120V, 450W/450VA dimmer	RKD-H5BRL-**XX**[1]-E[1]
6-button with raise/lower keypad and 120V, 450W/450VA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

Compatible with HomeWorks QS hybrid seeTouch keypads

XX[1]: Gloss and Satin Color® codes, see pg. 261 (Wallplates not included, order separately, see pg. 642)

E[1]: Complete an engraving sheet for each button kit. If no engraving is desired, remove the "-E" from the model number.

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.



Shown above: HomeWorks QS tabletop lamp dimmer in Snow (HQR-3LD-SW) (full cord length not shown)

Direct lighting loads

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

Features and capacities

- 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
- Cord is 6 ft (1.8 m) long
- Minimum load is 10 W
- Can be programmed to switch
- Available in Snow (SW) and Midnight (MN)

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® Radio Frequency (RF) technology to other Lutron® wireless devices
- Operates at 434 MHz
- Must be located within 30 ft (9 m) of a hybrid repeater
- Easy to install, no mounting required
- HomeWorks QS system can have up to 99 devices per RF link

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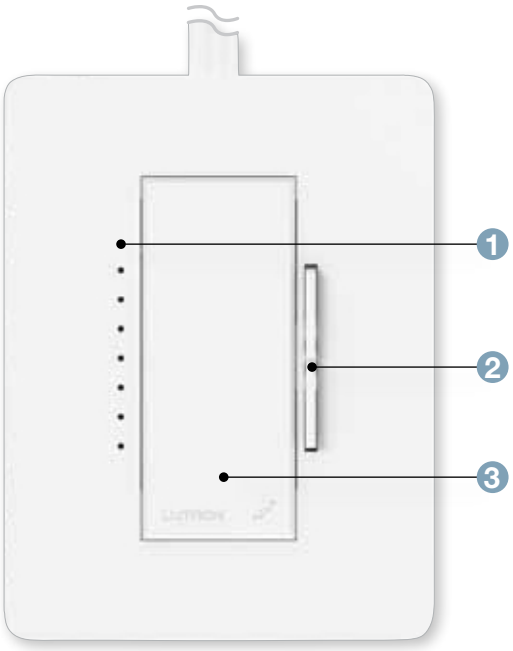
Download high resolution product image

Explanation of features



HomeWorks QS 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

Satin finish

SW
Snow

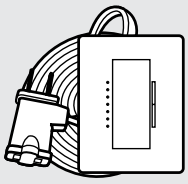
MN
Midnight

Model numbers

HomeWorks QS tabletop lamp dimmers
(120 V @ 50/60 Hz; 434 MHz)

Dimming/switching	
Plug-in lamp dimmer 300 W (incandescent/halogen) 200 W/300 VA (MLV)	HQR-3LD-**XX**[1]
Compatible with HomeWorks QS system	

Available models



HomeWorks QS
tabletop lamp dimmer

XX[1]: Available in Snow (SW) and Midnight (MN)

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.

Shown actual size: HomeWorks QS radio frequency (RF) plug-in dimming module (HQR-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
- HID
- Motor loads
- Fan loads

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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 15 A of general purpose load; it features Lutron patented Softswitch® technology to prevent the relay contacts from arcing, extending the life of the switch
- Appliance module may be used with (but is not limited to) task lighting, monitors, printers and fans
- Male plug on 24 in (610 mm) cord
- Female receptacle on 6 in (150 mm) cord
- 10 W minimum load for dimming module
- Use the plug-in appliance module to eliminate energy use by products/appliances in the off position, such as vampire loads
- Available in Snow (SW) and Midnight (MN)

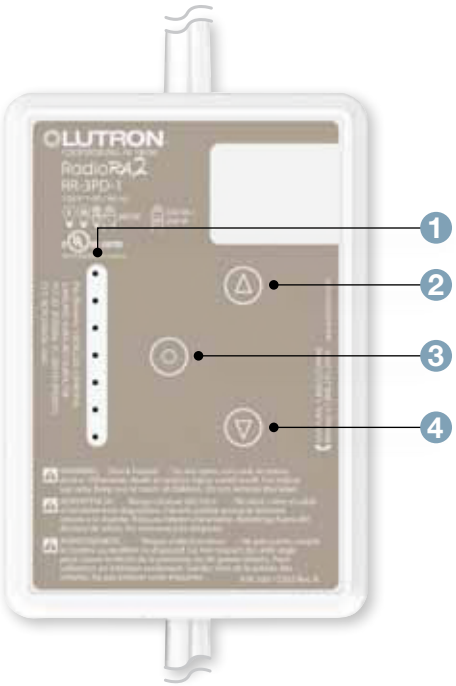
Dimensions and mounting

- Width: 2.25 in (57 mm)
  Height: 3.25 in (83 mm)
  Depth: 1.23 in (31 mm)
- Module can be hidden discretely behind furniture

Communication and wiring

- Communicates via Lutron reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz
- Must be located within 30 ft (9 m) of a hybrid repeater
- HomeWorks QS system can have up to 99 devices per RF link

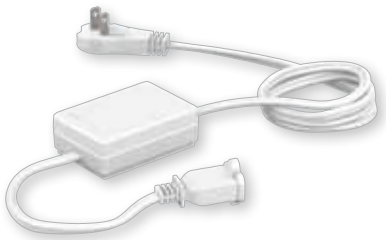
Explanation of features



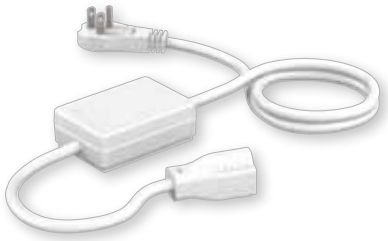
Back of HomeWorks QS RF plug-in dimming module (full cord length not shown)

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

Back of HomeWorks QS RF plug-in appliance module (full cord length not shown)



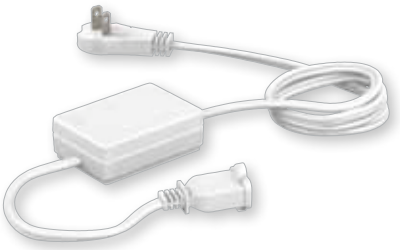
Dimming module (with 2-prong plug)



Appliance module (with 3-prong plug)

Available finishes

Matte finishes



SW
Snow

MN
Midnight

Model numbers

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

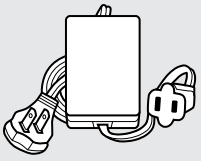
Dimming/switching

300 W/300 VA	HQR-3PD-1-**XX**[1]
Compatible with HomeWorks QS system	

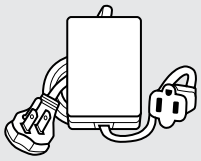
Appliance module

General purpose switching 0.50 HP or 15 A	HQR-15APS-1-**XX**[1]
Compatible with HomeWorks QS system	

Available models



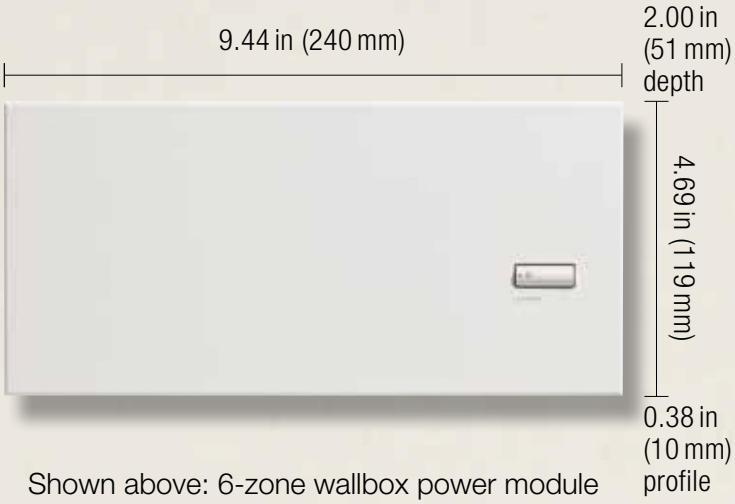
Dimming module
(2-prong plug)



Appliance module
(3-prong plug)

XX[1]: Available in Snow (SW) and Midnight (MN)

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.



Shown above: 6-zone wallbox power module (HQRJ-WPM-6D-120)

Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Tu-wire® fluorescent
- LED (2-wire forward phase)
- Neon/cold cathode
- Non-dim lighting

Model numbers

Wallbox power module	HQRJ-WPM-6D-120

Compatible with the HomeWorks QS system

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Download high resolution product image

Features and capacities

- Controls up to six zones of lighting
- Default scene button on the front of the unit that allows a user to toggle between pre-programmed scenes
- Provides a cost-effective dimming solution to jobs with lower wattage loads and space constraints
- Reduces overall job cost by 5-20% when less than 96 control zones are required
- Total unit maximum capacity:
  2000 W/VA for 120 V @ 50/60 Hz;
  3000 W/VA for 220-240 V @ 50/60 Hz
- Individual zone capacity:
  25-800 W/VA for 120 V @ 50/60 Hz;
  40-1200 W/VA for 220-240 V @ 50/60 Hz

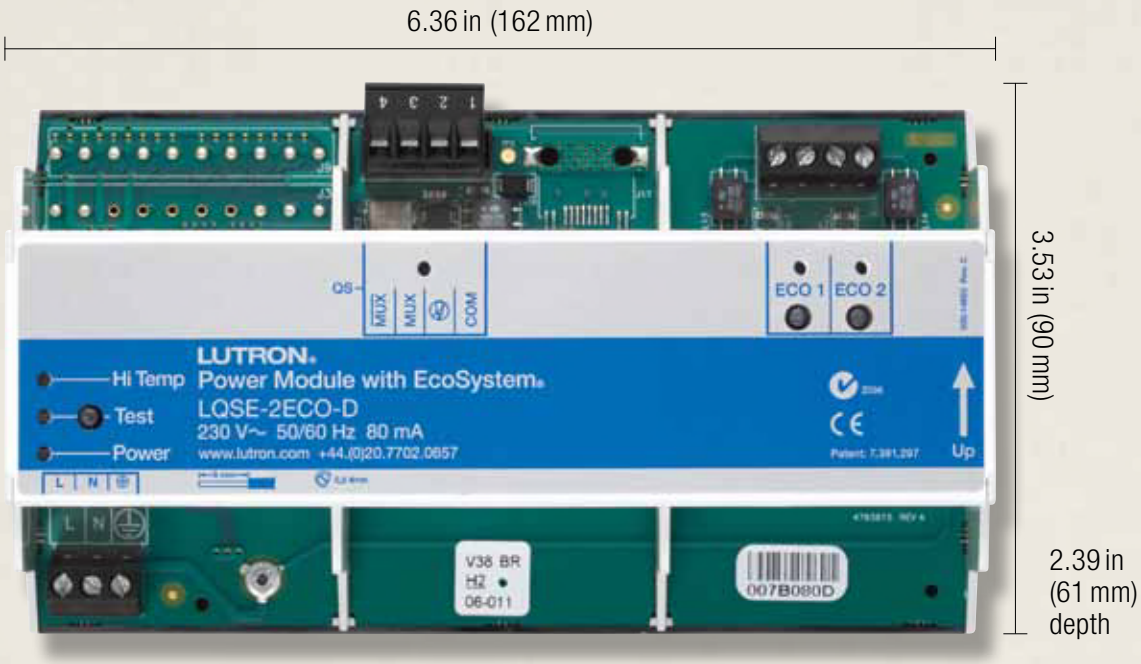
Dimensions and mounting

- Width: 9.44 in (240 mm)
  Height: 4.69 in (119 mm)
  Depth: 2.00 in (51 mm)
  Profile: 0.38 in (10 mm)
- Mounts in a 4-gang U.S. backbox, 3.5 in (89 mm) deep

Communication and wiring

- Can be configured for wired (QS link) or wireless (RF link) communication
- Radio frequency (RF) option communicates via Lutron reliable Clear Connect® RF technology to other Lutron wireless devices, operates at 434 MHz, and must be located within 30 ft (9 m) of a hybrid keypad
- Wired option communicates via low-voltage IEC PELV/NEC Class 2-wire on the QS link
- HomeWorks QS system can have up to 99 devices per RF link and up to 99 devices and 512 zones per QS link; the HomeWorks QS wallbox power module and its zones count towards the limit
- Does not consume power draw units

HomeWorks® QS power module with EcoSystem® (DIN-rail)



Shown above: HomeWorks QS power module with EcoSystem (DIN-rail) (LQSE-2ECO-D)

Direct lighting loads

Fluorescent/LED (EcoSystem)

Features and capacities

- Provides power for two links of EcoSystem ballasts or drivers (up to 64 mA per link)
- Includes QS link for connection to a HomeWorks QS system
- Power module with EcoSystem unit can be used in a HomeWorks QS system to control and manage light in an entire home or building
- Operates at 230 V (CE) @ 50/60 Hz

Dimensions and mounting

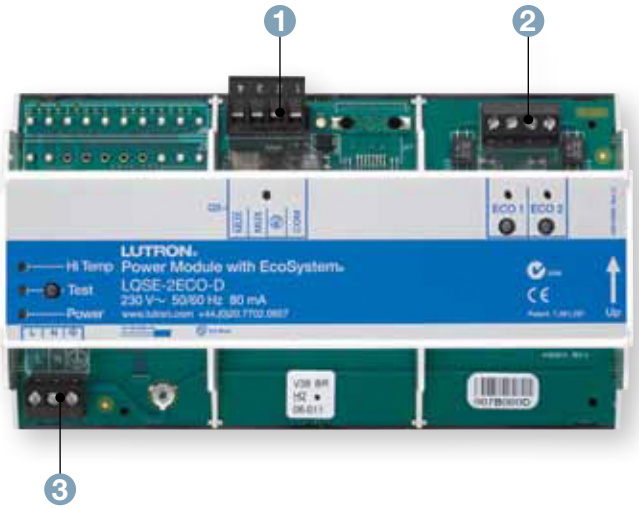
- Width: 6.36 in (162 mm)
  Height: 3.53 in (90 mm)
  Depth: 2.39 in (61 mm)
- Mounts to standard DIN-rail (width = 9.50 mm)
- 9 DIN-wide device

Communication and wiring

- Communicates to ballasts, modules, and LED drivers on the EcoSystem digital link, and via low-voltage IEC PELV/NEC Class 2 wire to HomeWorks QS processor components on the QS link
- Each QS link on a HomeWorks QS processor can have up to 99 devices and 512 zones, the power module with EcoSystem counts as one device toward the limit and each ballast/driver/module counts as one zone unless specifically grouped into zones
- Maximum of eight fully loaded EcoSystem digital links may be connected to a single QS link
- Does not consume power draw units

Download specification submittal

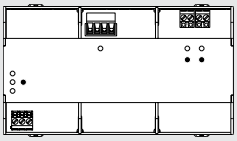
Explanation of features



HomeWorks QS power module with EcoSystem (DIN-rail)

	Features
1 QS link	• Link to additional wired controls, interfaces, and processors
2 EcoSystem digital links	• Up to 64 EcoSystem ballasts, modules, and drivers per link • Available with two links
3 Mains wiring	• Wiring from distribution panel to module

Available models



HomeWorks QS power module with EcoSystem (DIN-rail)

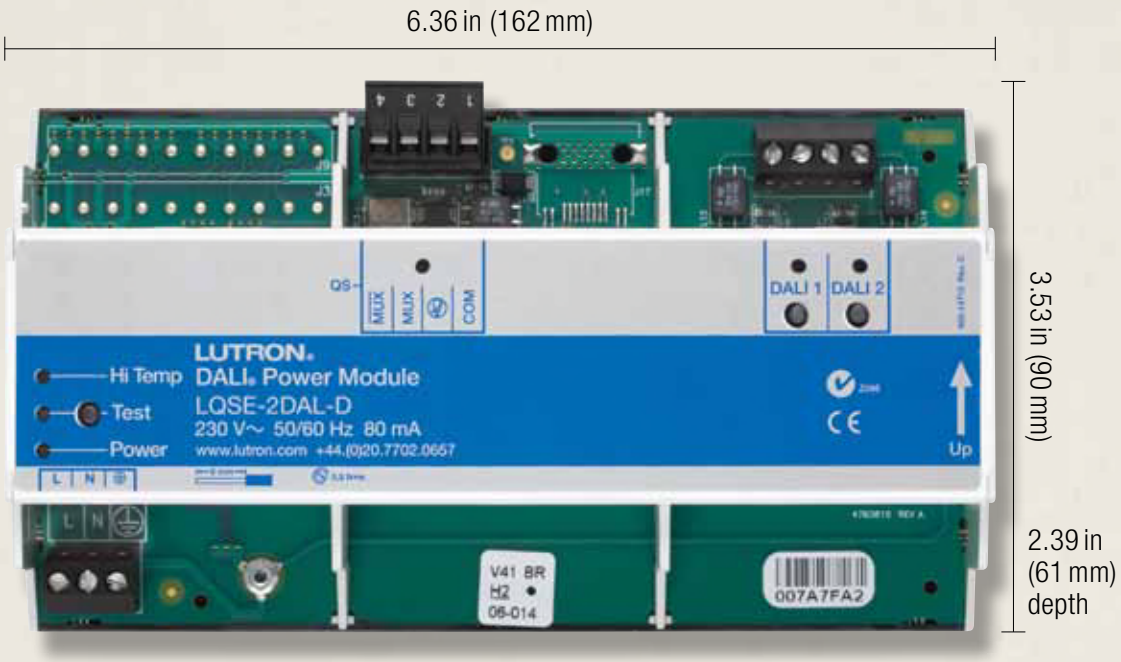
Model numbers

HomeWorks QS power module with EcoSystem
(DIN-rail)
230 V (CE), 220-240 V

EcoSystem, two links	LQSE-2ECO-D

Compatible with the HomeWorks QS system

For specific voltage by country information refer to voltage chart on pg. 692.



Shown above: HomeWorks QS DALI power module (DIN-rail) (LQSE-2DAL-D)

Direct lighting loads

Fluorescent/LED (DALI)

Features and capacities

- Provides power for two buses of DALI compliant digital addressable loads (up to 64 ballasts/LED drivers per bus)
- Each DALI bus can control a maximum of 16 zones
- Includes QS link for connection to a HomeWorks system
- Operates at 230 V (CE) @ 50/60 Hz

Dimensions and mounting

- Width: 6.36 in (162 mm)
  Height: 3.53 in (90 mm)
  Depth: 2.39 in (61 mm)
- Mounts to standard DIN-rail (width = 9.50 mm)
- 9 DIN-wide device

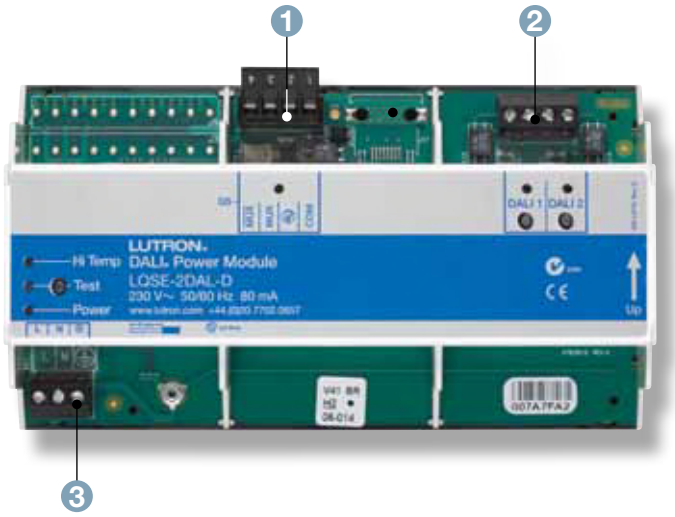
Communication and wiring

- Communicates via low-voltage IEC PELV/NEC Class 2 wire to the HomeWorks processor on the QS link
- Each QS link con a HomeWorks QS processor can have 99 devices and 512 zones; the DALI power module counts as one device toward the limit and each ballast/driver counts as one zone unless specifically grouped into zones
- Maximum of eight fully loaded DALI buses may be connected to a single QS link
- Does not consume power draw units

Download specification submittal

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

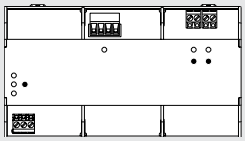
Explanation of features



HomeWorks QS DALI power module (DIN-rail)

	Features
1 QS link	• Link to additional wired controls, interfaces, and processors
2 DALI bus	• Up to 64 DALI ballasts and LED drivers per bus • Available with two buses
3 Mains wiring	• Wiring from distribution panel to module

Available models



HomeWorks QS
DALI power module (DIN-rail)

Model numbers

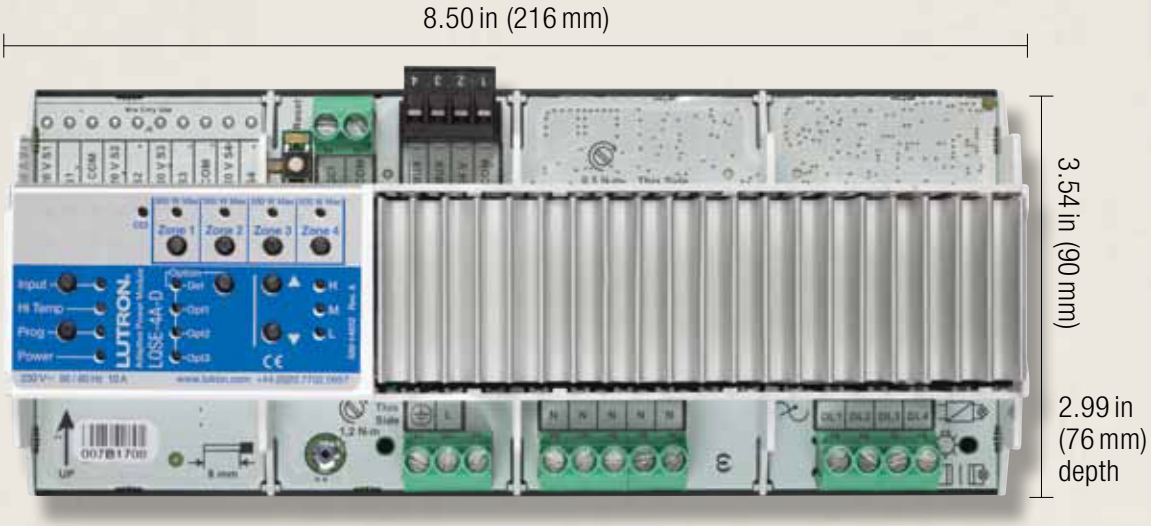
HomeWorks QS DALI power module (DIN-rail)
230 V (CE), 220-240 V

DALI	LQSE-2DAL-D

Compatible with the HomeWorks QS system

For specific voltage by country information refer to voltage chart on pg. 692.

HomeWorks® QS phase adaptive power module (DIN-rail)



Shown above: HomeWorks QS phase adaptive power module (DIN-rail) (LQSE-4A-D)

Direct lighting loads

- Incandescent/halogen
- Electronic low-voltage
- Magnetic low-voltage
- Neon/cold cathode
- CFL/LED (screw-base)*

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)
- Automatically selects leading edge or trailing edge dimming
- RTISS technology ensures that each output dims smoothly and is flicker-free
- No minimum load requirement; one load type per zone
- Includes QS link for connection to HomeWorks QS system
- Operates at 220-240 V (CE) @ 50/60 Hz

Dimensions and mounting

- Width: 8.50 in (216 mm)
  Height: 3.54 in (90 mm)
  Depth: 2.99 in (76 mm)
- Mounts to standard DIN-rail (width = 9.50 mm)
- 12 DIN-wide device

Communication and wiring

- Communicates via low-voltage IEC PELV/NEC Class 2 wire to HomeWorks QS processor on the QS link
- Each QS link on a HomeWorks QS processor can have up to 99 devices and 512 zones; the phase adaptive power module and each assigned zone counts towards the limit
- Does not consume power draw units

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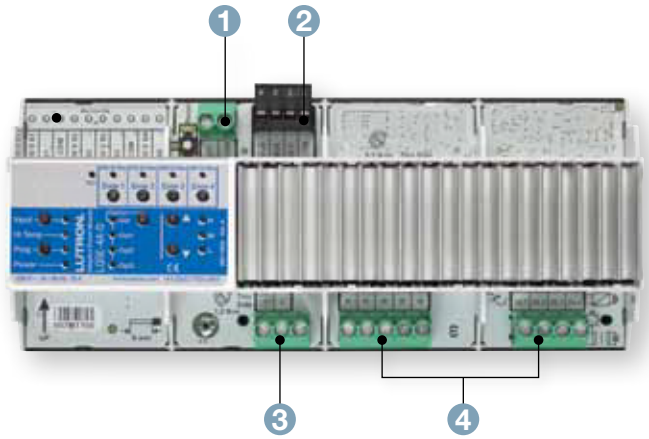
* Visit www.lutron.com/LEDtool for a complete list of LEDs compatible with this module*

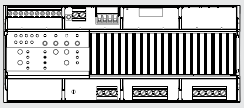
Explanation of features



HomeWorks QS phase adaptive power module (DIN-rail)

	Features
1 Emergency contact closure input	• Force all lights to 100% (by default)
2 QS link	• Link to additional wired controls, interfaces, and processor
3 Mains wiring	• Wiring from distribution panel to module • 220-240V (CE)
4 Phase adaptive outputs	• Zone 1 – 800W, Zones 2-4 – 500W

Available models



HomeWorks QS phase adaptive power module (DIN-rail)

Model numbers

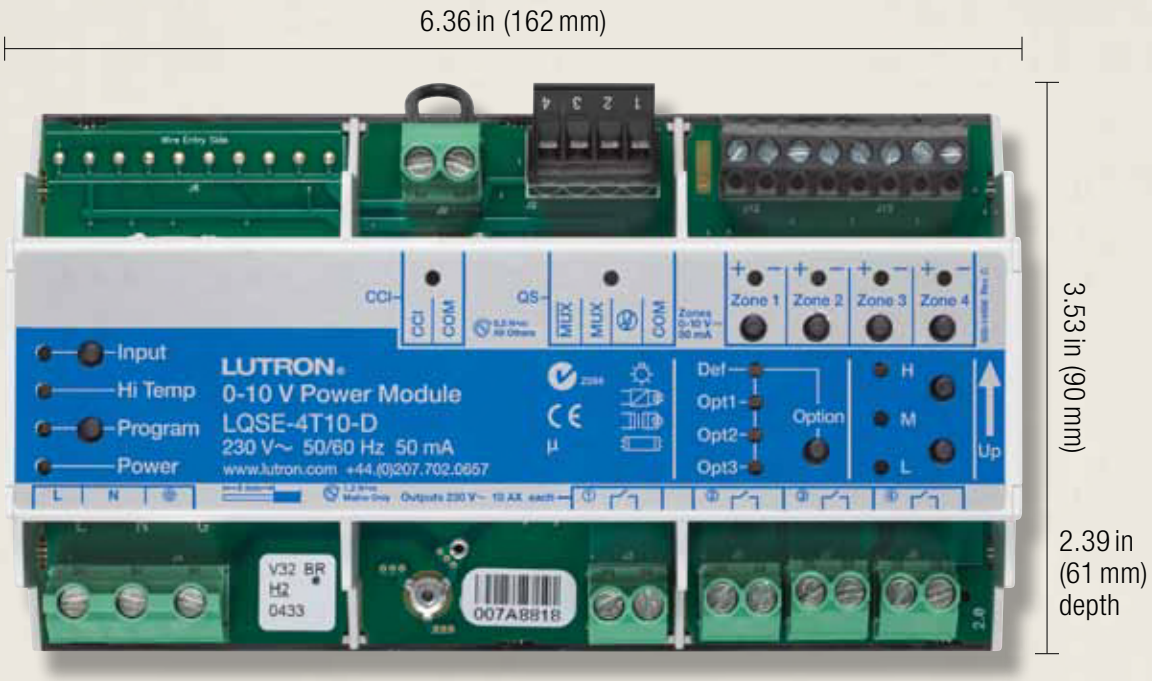
HomeWorks QS phase adaptive power module (DIN-rail)
230 V (CE), 220-240 V

Phase adaptive	LQSE-4A-D

Compatible with the HomeWorks QS system

For specific voltage by country information refer to voltage chart on pg. 692.

HomeWorks® QS switching/0-10 V power module (DIN-rail)



Shown above: HomeWorks QS switching/0-10 V power module (DIN-rail) (LQSE-4T10-D)

Direct lighting loads

- Fluorescent/LED (0-10 V)
- Non-dim lighting
- HID

Features and capacities

- Controls up to four 16 A circuits of lighting loads (switched relay or 0-10 V dimming)
- Includes QS link for connection to HomeWorks QS system
- Operates at 230 V (CE) @ 50/60 Hz

Dimensions and mounting

- Width: 6.36 in (162 mm)
  Height: 3.53 in (90 mm)
  Depth: 2.39 in (61 mm)
- Mounts to standard DIN-rail (width = 9.50 mm)
- 9 DIN-wide device

Communication and wiring

- Communicates via low-voltage IEC PELV/NEC Class 2 wire to HomeWorks QS processor on the QS link
- Each QS link on a HomeWorks QS processor can have up to 99 devices and 512 zones; the switching/0-10 V power module and each assigned zone counts toward the limit
- Does not consume power draw units

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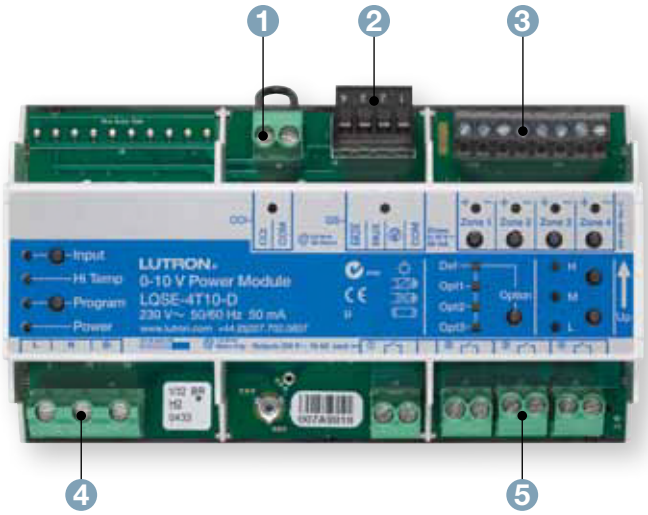
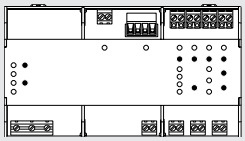
Explanation of features



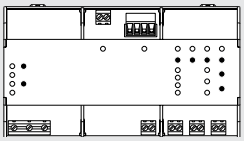
HomeWorks QS switching/0-10 V power module (DIN-rail)

	Features
1 Emergency contact closure input	• Forces all lights to 100% (by default)
2 QS link	• Link to additional wired controls, interfaces, and processor
3 0-10 V channels	• Four dimming zones (0-10 V)
4 Mains wiring	• Wiring from distribution to bus supply
5 Switched load outputs	• Four feed-through relays • 220-240 V

Available models



HomeWorks QS switching/0-10 V power module (DIN-rail)



HomeWorks QS switching power module (DIN-rail)

Model numbers

HomeWorks QS switching/0-10 V power module
(DIN-rail)
230 V (CE), 220-240 V

0-10 V	LQSE-4T10-D

Compatible with the HomeWorks QS system

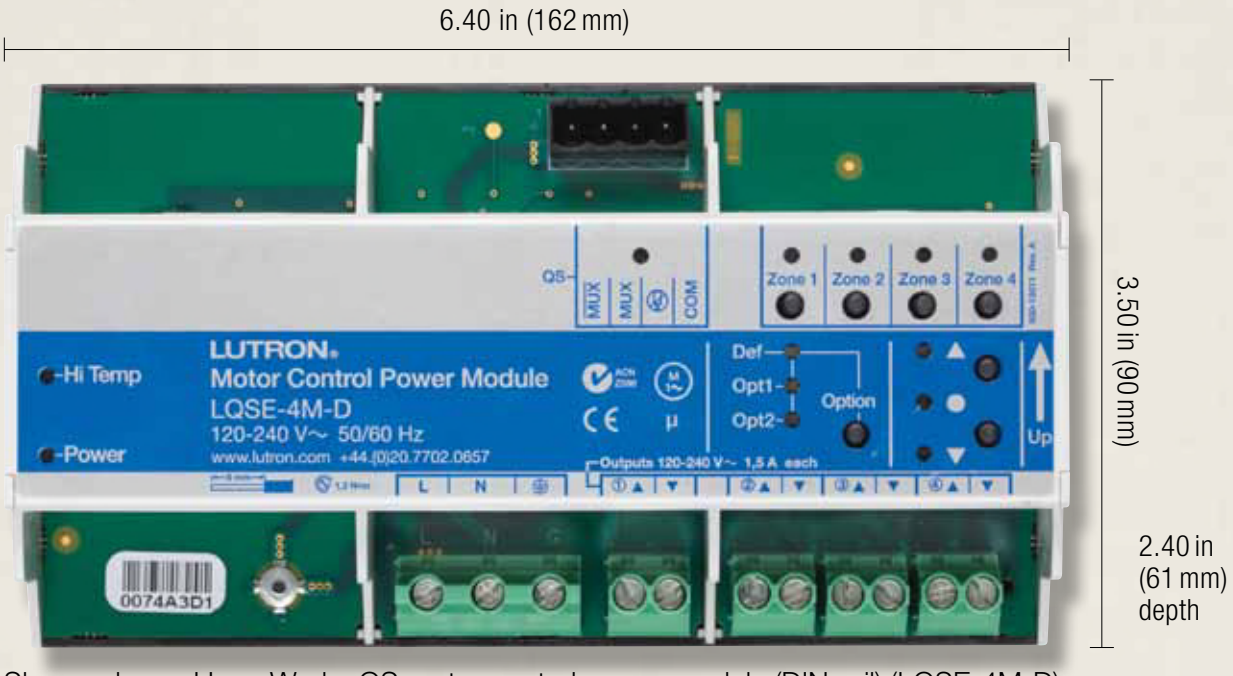
HomeWorks QS switching power module
(DIN-rail)
230 V (CE), 220-240 V

Switching	LQSE-4S10-D

Compatible with the HomeWorks QS system

For specific voltage by country information refer to voltage chart on pg. 692.

HomeWorks® QS motor control power module (DIN-rail)



Shown above: HomeWorks QS motor control power module (DIN-rail) (LQSE-4M-D)

Direct lighting loads

- AC motor loads

Features and capacities

- Provides seamless integration of HomeWorks QS systems 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; 1.50 A maximum motor load per channel, 6 A maximum total input current
- Includes QS link for connection to HomeWorks QS system
- Operates at 120-240 V (CE) @ 50/60 Hz

Dimensions and mounting

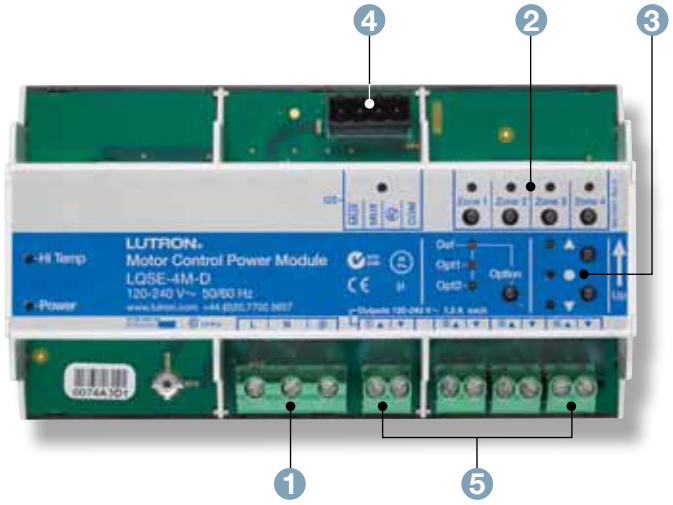
- Width: 6.40 in (162 mm)
  Height: 3.50 in (90 mm)
  Depth 2.40 in (61 mm)
- Mounts to standard DIN-rail (width = 9.50 mm)
- 9 DIN-wide device

Communication and wiring

- Communicates via low-voltage IEC PELV/NEC Class 2 wire to HomeWorks QS processor on the QS link
- Each QS link on a HomeWorks QS processor can have 99 devices and 512 zones; the motor control power module counts as one device and four zones toward the limits
- Does not consume power draw units

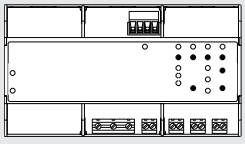
Download specification submittal

Explanation of features



Features	
1 Mains wiring	• Wiring from distribution panel to module
2 Zone select buttons	• Select desired zone • LED indicates which zone is selected
3 Raise/lower buttons	• Raise and lower selected zones • LEDs indicate which direction (raise/stop/lower) is active
4 QS link	• Link to additional wired controls, interfaces and processors
5 Motor load outputs	• 1.5 A maximum motor load per channel • Four outputs

Available models



HomeWorks QS motor control power module (DIN-rail)

Model numbers

HomeWorks QS motor control power module (DIN-rail)
110-127 V, 230 V (CE), 220-240 V

Motor control	LQSE-4M-D

Compatible with HomeWorks QS International system

Sub-controls

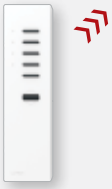
A sub-control is an accessory component to a system that provides additional control locations for increased convenience and functionality. The sub-controls in this guide are specific to each country's voltage and frequency requirements. Please confirm that the products you have selected match the required voltages by country on pg. 692

Sub-control options include:

- Keypads
- Wallstations
- Wireless Controllers
- IR Remote Controls

Whole building system components

Ceiling-mount infrared receiver
pg. 290



Infrared (IR) remote control
pg. 292

Wireless Radio Frequency (RF) communication
Infrared (IR) communication

Entrance control
pg. 295

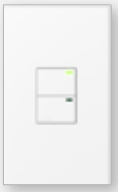
Slim-button wallstation
pg. 309

seeTouch® keypad
pg. 326

Traditional opening wallstation
pg. 299

Large-button wallstation
pg. 313

seeTouch window treatment keypad
pg. 335



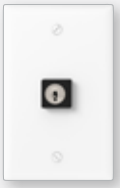
2-button wallstation
pg. 301

European-style wallstation
pg. 317

Partition status keypad/wallstation
pg. 339

Architectural wallstation
pg. 305

Architrave® wallstation
pg. 321



Keyswitch
pg. 343

Whole building system components (continued)

Multi-channel theatrical consoles
pg. 346

Pico® wireless control
pg. 351

seeTouch® QS keypad
pg. 366

EcoSystem® IR remote control and IR receiver
pg. 347

Pico wired control
pg. 360

International seeTouch QS keypad
pg. 374

QS infrared (IR) eye
pg. 350

EcoSystem® wallstation
pg. 363

QS Keyswitch
pg. 380

Wireless Radio Frequency (RF) communication
Infrared (IR) communication

Whole home system components

HomeWorks QS designer-style seeTouch wired keypad
pg. 384

HomeWorks QS International seeTouch® keypad
pg. 401

HomeWorks QS visor control transmitter
pg. 413

HomeWorks QS designer-style seeTouch wireless keypad
pg. 389

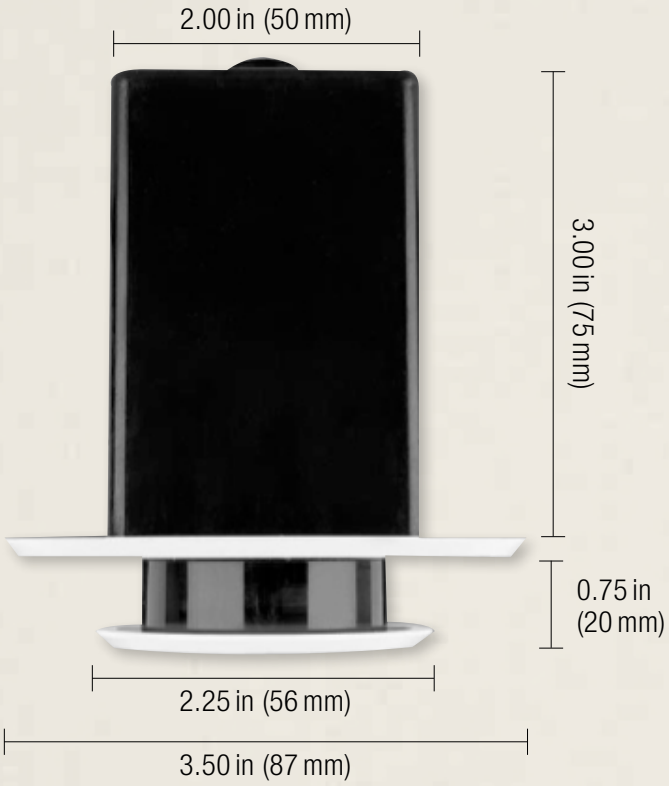
HomeWorks QS wireless tabletop keypad
pg. 406

seeTemp® wall control
pg. 415

HomeWorks QS Architectural-style seeTouch keypad
pg. 394

HomeWorks® QS dynamic keypad
pg. 410

TouchPRO Wireless® thermostat
pg. 419



Shown above: OMX ceiling-mount infrared (IR) receiver (OMX-CIR-WH)

Features and capacities

- Provides control of lighting via IR handheld remote controls by providing an access point
- Allows scene selection, raise/lower scenes and all off functionality via Lutron IR remote control
- Works with all Lutron IR remote controls
- Available in White (WH)
- OMX models operate at 24 V DC; GRX models operate at 12/24 V DC

Dimensions and mounting

- Diameter: 3.50 in (89 mm)
  Depth: 3.00 in (76 mm)
  Profile: 0.75 in (20 mm)
- Mounts in metal collar provided by Lutron; recess-mounted

Communication and wiring

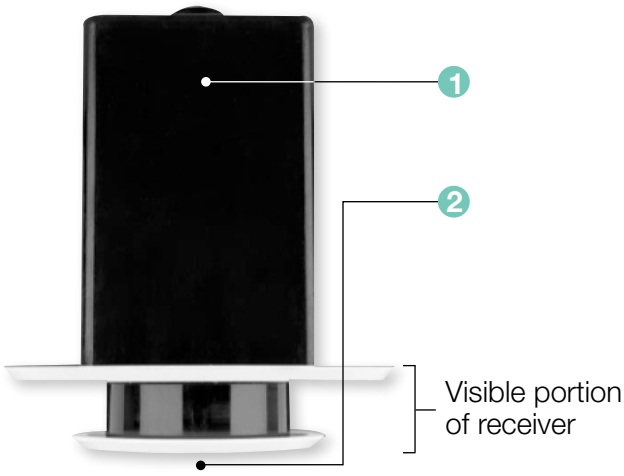
- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to main control unit and other system components
- OMX models—counts as one wallstation on OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX models—GRAFIK Eye 4000 system can have up to 16 total keypads/wallstations and/or control interfaces; each ceiling-mount IR receiver counts as one wallstation
- Reception range: 360°, 50 ft (15 m) line-of-sight range from wireless remote control to receiver

Related components

IR remote control
pg. 292

Download specification submittal for OMX
Download specification submittal for GRX

Explanation of features



Ceiling-mount infrared (IR) receiver

Features	
1 DIP switches (not shown)	• Utilized to address
2 IR lens	• Receives signal from IR remote control

Model numbers

OMX IR receiver

Ceiling-mount IR receiver	OMX-CIR-WH

Compatible with LCP128™ and Softswitch128® (XPS) systems.

GRX IR receiver

Ceiling-mount IR receiver	GRX-CIR-WH

Compatible with the GRAFIK Eye® 4000 system.

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® or 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

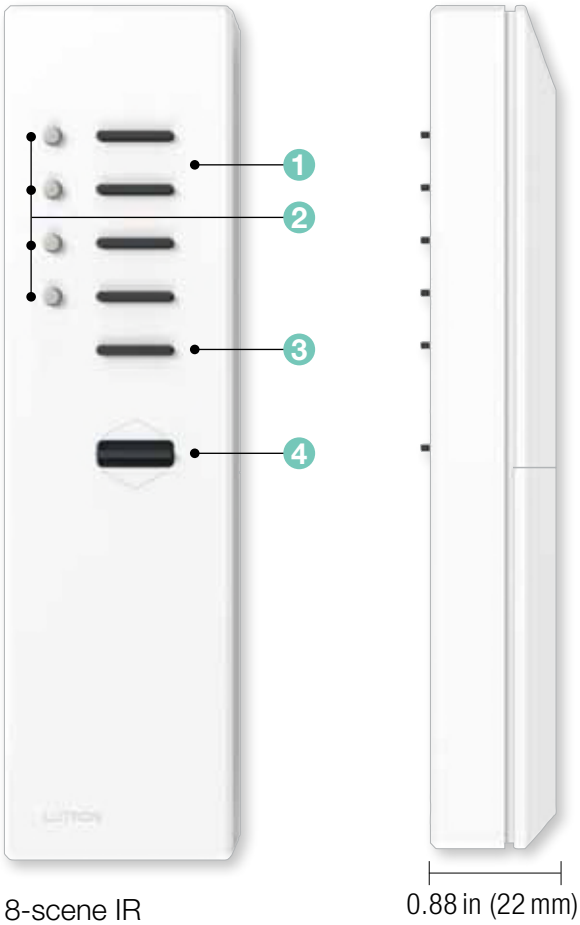
- Width: 1.50 in (38 mm)
  Height: 5.69 in (145 mm)
  Depth: 0.88 in (22 mm)
- Handheld control

Communication and wiring

- IR remote control uses IR signals to communicate with the IR receiver
- Transmits signal up to 50 ft (15 m) line-of-sight range to receiver

Download specification submittal for GRX-IT
Download specification submittal for GRX-8IT
Download engraving sheet for IR remote

Explanation of features



8-scene IR
remote control

	Features
1 Preset buttons (scenes 1-4)	• Models available with 1-4 scene buttons
2 Preset buttons (scenes 5-8)	• Models available with an additional 5-8 scene buttons
3 Off button	• Turns all lights off
4 Master raise/ lower buttons	• Brightens/dims all lighting zones

Available models

4-scene

8-scene

Model numbers

IR remote control

4-scene	GRX-IT-**XX**[1]-**E**[1]
8-scene	GRX-8IT-**XX**[1]-**E**[1]

Compatible with LCP128™, Softswitch128® (XPS), GRAFIK Eye® 4000, Quantum®, and HomeWorks® QS systems.

XX[1]: White (WH) or Black (BL)

E[1]: Engraving form required with order. If engraving not desired, omit "E".

Shown above: Entrance control in White (NTGRX-1S-WH)

Features and capacities

- One button control, toggles the connected GRAFIK Eye® control unit between Scene one and Off
- Operates one GRAFIK Eye control unit
- Ideal for large projects that utilize the maximum number of keypads/wallstations and/or control interfaces, but still require additional points of control
- Operates at 12/24 V DC
- Engraving available

Dimensions and mounting

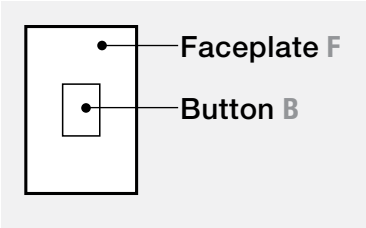
- Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

Communications and wiring

- Wires direct to GRAFIK Eye 4000 control unit via low-voltage IEC PELV/NEC Class 2 wiring
- Up to 10 entrance controls may be wired in parallel to a single GRAFIK Eye control unit
- Does not require an address
- Does not count toward maximum number of keypads/wallstations/control interfaces in a GRAFIK Eye 4000 system

Download specification submittal
Download engraving sheet for faceplates

Available finishes



Use **BOLD** color code in model number (Example: NTGRX-1S-**WH**)

Architectural matte finishes (Coordinated faceplates included)

WH
White F, B

IV
Ivory F, B

BE
Beige F, B

GR
Gray F, B

TP
Taupe F, B

BR
Brown F, B

Architectural metal finishes (Coordinated faceplates included)

BN
Bright Nickel F
Black B, I

BC
Bright Chrome F
Black B

CLA
Clear Anodized Aluminum F
Black B

SC
Satin Chrome F
Black B

SN
Satin Nickel F
Black B

QZ
Antique Bronze F
Black B

BB
Bright Brass F
Black B

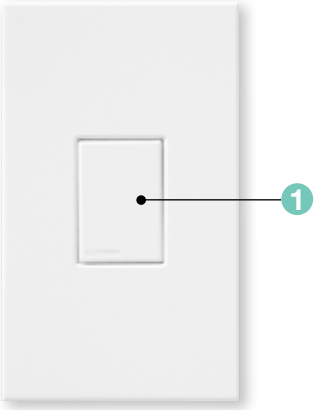
BRA
Brass Anodized Aluminum F
Black B

SB
Satin Brass F
Black B

QB
Antique Brass F
Black B

BLA
Black Anodized Aluminum F
Black B

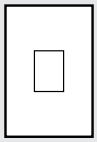
Explanation of features



Entrance control

	Features
1 Button	• Toggles between Scene 1 and Off

Available models



Entrance control

Model numbers

Entrance control

1-button	NTGRX-1S-**XX**[1]**-E**[1]

Compatible with the GRAFIK Eye® 4000 system.

XX[1]: Architectural matte and metal finishes

E[1]: Engraving form required with order. If engraving not desired, omit "E".

Shown above: 1-button traditional opening with status LED wallstation in White (FOMX-1B-SL-WH)

Features and capacities

- Simple wallstation with one tap button or one tap button with status LED
- Provides toggle functionality for any zone(s) in the system
- Front accessible DIP switches allow change of address without removing the unit from the wall
- Shipped with or without screwless Fassada® traditional opening faceplate, which are screwless, seamless and have no visible hardware
- Available in white (WH)
- Can be ganged with other traditional opening wallstations and controls using a multi-gang faceplate
- Operates at 24 V DC

Dimensions and mounting

- Width: 2.86 in (73 mm)
  Height: 4.60 in (117 mm)
  Depth: 1.31 in (33 mm)
  Profile: 0.23 in (6 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 to the main control unit and other system components
- Counts as one wallstation on OMX link; can have up to 32 keypads/wallstations and/or control interfaces

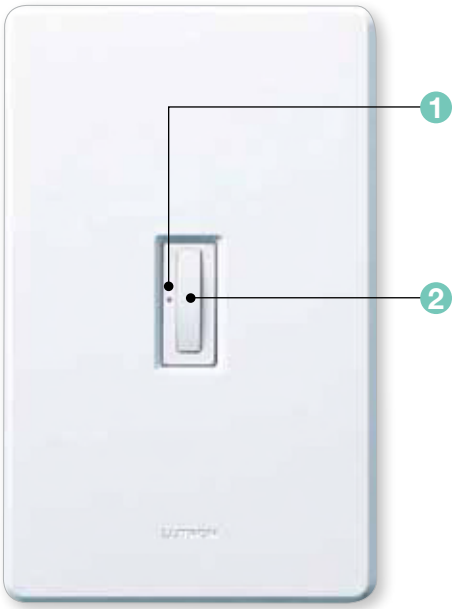
Available finishes

Gloss finish

WH
White

Download specification submittal
Download engraving sheet for faceplates

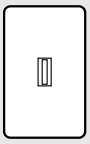
Explanation of features



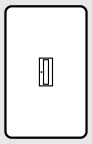
1-button traditional opening with status LED wallstation

Features	
1 Status LED	• Indicates status of lights assigned to button
2 Tap button	• Tap to turn on/off

Available models



1-button

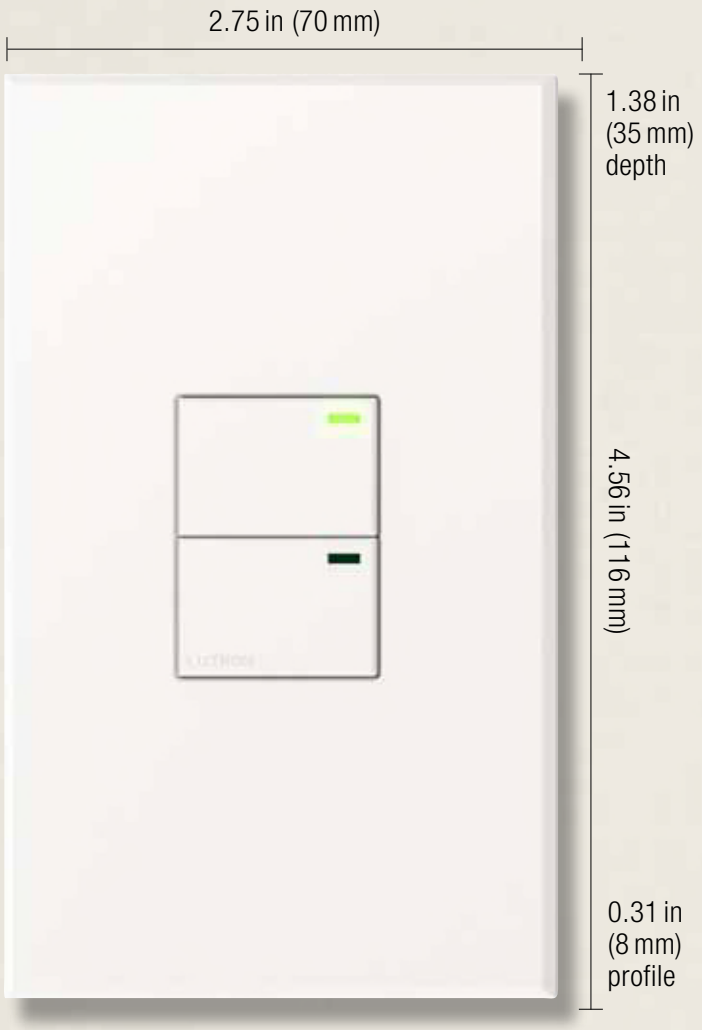


1-button with status LED

Model numbers

OMX traditional opening wallstation	
1-button with faceplate	FOMX-1B-WH
1-button without faceplate	FOMX-1B-NW-WH
1-button with status LED with faceplate	FOMX-1B-SL-WH
1-button with status LED without faceplate	FOMX-1B-SLNW-WH
Compatible with LCP128™ and Softswitch128® (XPS) systems	

Fassada® traditional opening screwless faceplate	
1-gang faceplate	FW-1-WH
2-gang faceplate	FW-2-WH
3-gang faceplate	FW-3-WH
4-gang faceplate	FW-4-WH
Compatible with all traditional opening wallstations.	



Shown above: OMX 2-button wallstation in White (NTOMX-2B-SL-WH)

Features and capacities

- OMX models offer the following functionality, dependent upon system:
  - Toggle
  - Scene selection
  - Raise/lower zones
  - All off
  - Delay to off
  - Enable/disable time clock
- GRX models offer the following functionality:
  - Scene selection
  - Entrance or panic wallstation selection
  - Fine tuning
  - Partitioning
  - Zone lockout
  - Sequencing
- Ideal for use in entryways to turn all lights off
- OMX models operate at 24 V DC; GRX models operate at 12/24 V DC
- Engraving available

Dimensions and mounting

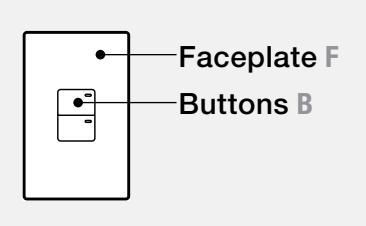
- Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)
- Mounts in standard 1-gang U.S. backbox

Communications and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- OMX models—counts as one wallstation on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX models—GRAFIK Eye® 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each 2-button wallstation counts as one wallstation

Download specification submittal for OMX
Download specification submittal for GRX
Download engraving sheet for faceplates

Available finishes



Use **BOLD** color code in model number (Example: NTOMX-2B-SL-**WH**)

Architectural matte finishes

WH
White F, B

IV
Ivory F, B

BE
Beige F, B

GR
Gray F, B

BR
Brown F, B

BL
Black F, B

Architectural metal finishes

BN
Bright Nickel F
Black B

BC
Bright Chrome F
Black B

CLA
Clear Anodized Aluminum F
Black B

SC
Satin Chrome F
Black B

SN
Satin Nickel F
Black B

QZ
Antique Bronze F
Black B

BB
Bright Brass F
Black B

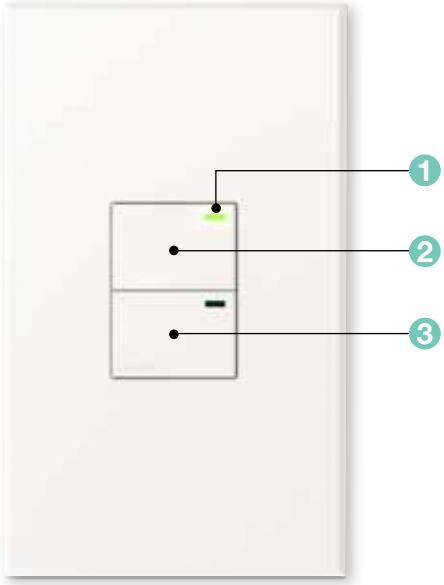
BRA
Brass Anodized Aluminum F
Black B

SB
Satin Brass F
Black B

QB
Antique Brass F
Black B

BLA
Black Anodized Aluminum F
Black B

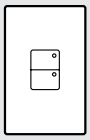
Explanation of features



2-button wallstation

Feature	
1 Status LEDs	• Indicate which wallstation button has been activated
2 Top button	• Scene select, start sequencing, or raise button and other functions
3 Bottom button	• Scene select, stop sequencing, lower or off button and other functions

Available models



2-button

Model numbers

OMX 2-button wallstation

2-button	NTOMX-2B-**XX**[1]**-E**[1]
2-button (Japan)	NTOMX-2B-JA-**XX**[1]**-E**[1]

Compatible with LCP128™ and Softswitch128® (XPS) systems.

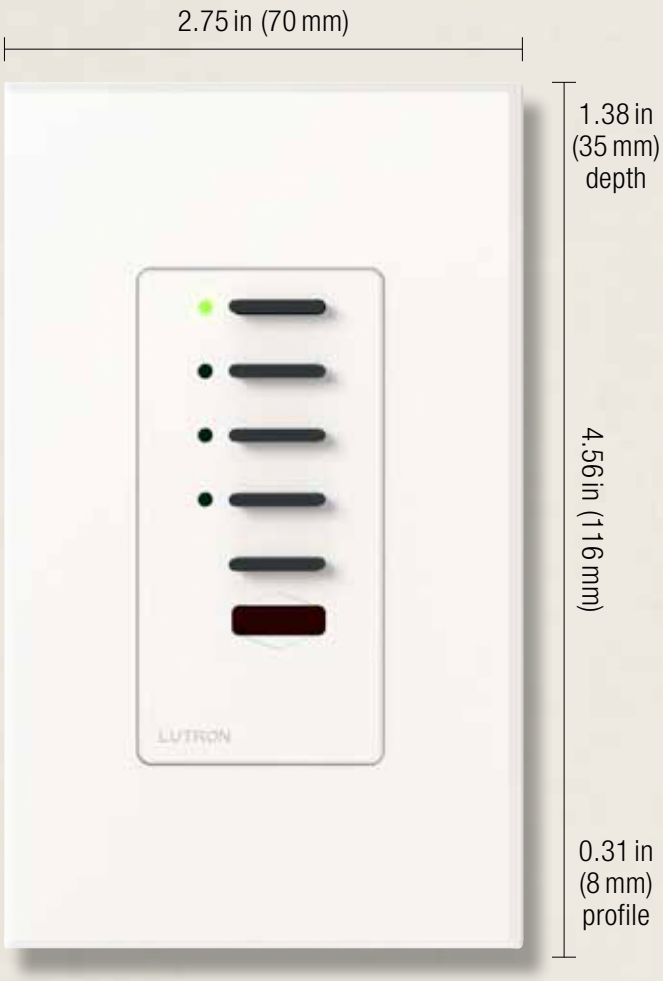
GRX 2-button wallstation

2-button	NTGRX-2B-SL-**XX**[1]**-E**[1]
2-button (Japan)	NTGRX-2B-SL-JA-**XX**[1]**-E**[1]

Compatible with the GRAFIK Eye® 4000 system.

XX[1]: Architectural matte and metal finishes

E[1]: Engraving form required with order. If engraving not desired, omit "E."



Shown above: OMX Architectural 4-scene wallstation with raise/lower and off in White (NTOMX-4S-WH)

Features and capacities

- Offer the following functionality, dependant upon button configuration and system:
  - Toggle
  - Scene selection
  - Raise/lower zones or scenes
  - All off
  - Delay to off
  - Enable/disable time clock
- Slim-button, insert-style aesthetic compliments GRAFIK Eye® main units and architectural-style dimmers
- Functionality may be selected in the field
- OMX models operate at 24 V DC; GRX models operate at 12/24 V DC
- Engraving available

Dimensions and mounting

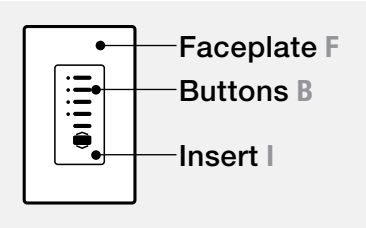
- Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

Communications and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to main control unit and other system components
- OMX models—counts as one wallstation on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX models—GRAFIK Eye 4000 system can have up to 16 total keypads/wallstations and/or control interfaces; each Architectural wallstation counts as one wallstation

Download specification submittal for NTGRX
Download specification submittal for NTOMX-4B
Download specification submittal for NTOMX-4S
Download specification submittal for NTOMX-4SIR
Download engraving sheet for faceplates

Available finishes



Use **BOLD** color code in model number (Example: NTOMX-4S-**WH**)

Architectural matte finishes

WH
White F, I
Black B

IV
Ivory F, I
Black B

BE
Beige F, I
Black B

GR
Gray F, I
Black B

BR
Brown F, I
Black B

BL
Black F, I
Black B

Architectural metal finishes

BN
Bright Nickel F
Black B, I

BC
Bright Chrome F
Black B, I

CLA
Clear Anodized Aluminum F
Black B, I

SC
Satin Chrome F
Black B, I

SN
Satin Nickel F
Black B, I

QZ
Antique Bronze F
Black B, I

BB
Bright Brass F
Black B, I

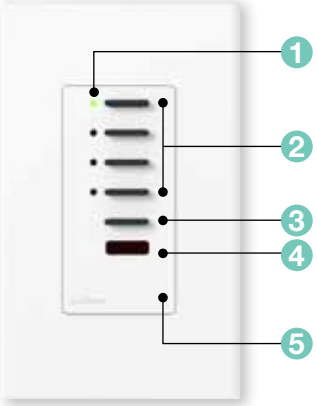
BRA
Brass Anodized Aluminum F
Black B, I

SB
Satin Brass F
Black B, I

QB
Antique Brass F
Black B, I

BLA
Black Anodized Aluminum F
Black B, I

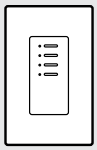
Explanation of features



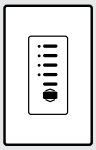
Architectural 4-scene wallstation with raise/lower and off

	Features
1 Status LEDs	• Indicate which wallstation button has been activated
2 Buttons	• Available with four scene preset options • Can provide toggle, scene selection, or enable/disable time clock and other functions
3 Off	• Turns all lights off
4 Raise/lower buttons	• Brightens/dims all assigned lighting
5 Insert style	• Insert style wallstations use standard decorator style faceplates for single and multi-gang configurations

Available models



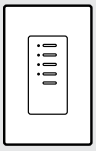
4-button



4-scene with raise/lower and off

4-scene with infrared receiver and off

4-scene with switch interface, infrared receiver and off



4-scene with off

4-button master control

Model numbers

OMX Architectural wallstations

4-button	NTOMX-4B-**XX[1]-E[1]**
4-button (Japan)	NTOMX-4B-JA-**XX[1]-E[1]**
4-scene with off	NTOMX-4S-NRL-**XX[1]-E[1]**
4-scene with off (Japan)	NTOMX-4NRL-JA-**XX[1]-E[1]**
4-scene with raise/lower and off	NTOMX-4S-**XX[1]-E[1]**
4-scene with raise/lower and off (Japan)	NTOMX-4S-JA-**XX[1]-E[1]**
4-scene with infrared receiver and off	NTOMX-4S-IR-**XX[1]-E[1]**
4-scene with infrared receiver and off (Japan)	NTOMX-4SIR-JA-**XX[1]-E[1]**

Compatible with LCP128™ and Softswitch128® (XPS).

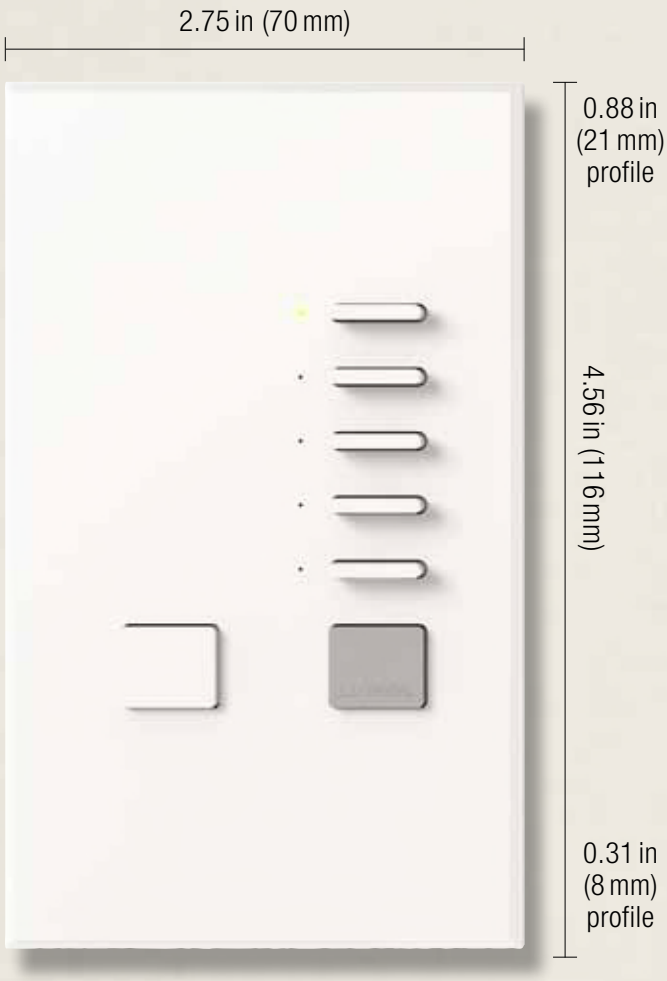
GRX Architectural wallstations

4-button	NTGRX-4B-**XX[1]-E[1]**
4-button (Japan)	NTGRX-4B-JA-**XX[1]-E[1]**
4-scene with raise/lower and off	NTGRX-4S-**XX[1]-E[1]**
4-scene with raise/lower and off (Japan)	NTGRX-4S-JA-**XX[1]-E[1]**
4-scene with infrared receiver and off	NTGRX-4S-IR-**XX[1]-E[1]**
4-scene with infrared receiver and off (Japan)	NTGRX-4SIR-JA-**XX[1]-E[1]**
4-scene with switch interface, infrared receiver and off	NTGRX-S14S-IR-**XX[1]-E[1]**
4-button master control	NTGRX-4M-**XX[1]-E[1]**
4-button master control (Japan)	NTGRX-4M-JA-**XX[1]-E[1]**

Compatible with the GRAFIK Eye® 4000 system.

XX[1]: Architectural matte and metal finishes, see pg. 306

E[1]: Engraving form required. If engraving not desired, omit "E."



Shown above: OMX Slim-button 5-button wallstation in White (NTOMX-KP5-WH)

Features and capacities

- Slim buttons select scenes
- Two large buttons dim and brighten selected scene or turn lights full on and off, depending on functionality selected in field
- OMX models operate at 24 V DC; GRX models operate at 12/24 V DC
- Engraving available

Dimensions and mounting

5-button and 10-button

- Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

15-button

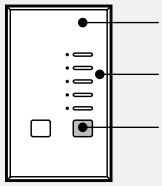
- Width: 4.56 in (116 mm)
  Height: 4.56 in (116 mm)
  Depth: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 2-gang U.S. backbox

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- OMX models—counts as one wallstation on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX models—GRAFIK Eye® 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each slim-button wallstation counts as one wallstation

Download specification submittal for NTOMX-KP10
Download specification submittal for NTOMX-KP15
Download specification submittal for NTOMX-KP5
Download specification submittal for NTGR-KP
Download specification submittal for NTGRX-LB
Download specification submittal for NTOMX-LB6
Download specification submittal for NTOMX-LB6-RL
Download specification submittal for NTOMX-LB9
Download specification submittal for NTOMX-LB9-RL
Download engraving sheet for faceplates

Available finishes



Use **BOLD** color code in model number (Example: NTOMX-KP5-**WH**)

Architectural matte finishes

WH
White F, B
Gray L

IV
Ivory F, B, L

BE
Beige F, B, L

GR
Gray F, B, L

BR
Brown F, B, L

BL
Black F, B, L

Architectural metal finishes

BN
Bright Nickel F
Black B, L

BC
Bright Chrome F
Black B, L

CLA
Clear Anodized Aluminum F
Black B, L

SC
Satin Chrome F
Black B, L

SN
Satin Nickel F
Black B, L

QZ
Antique Bronze F
Black B, L

BB
Bright Brass F
Black B, L

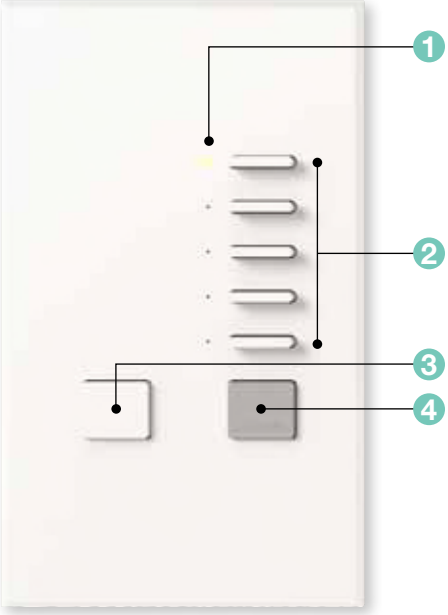
BRA
Brass Anodized Aluminum F
Black B, L

SB
Satin Brass F
Black B, L

QB
Antique Brass F
Black B, L

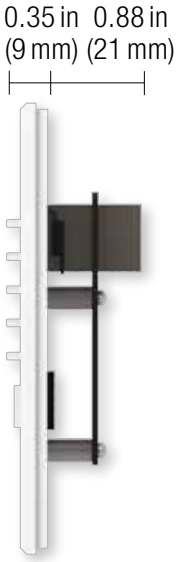
BLA
Black Anodized Aluminum F
Black B, L

Explanation of features



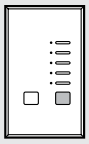
Slim-button 5-button wallstation

	Features
1 Status LEDs	• Indicate which wallstation button has been activated
2 Buttons	• Available with 5, 10, or 15 buttons • Provide scene selection
3 Lower or full on*	• Dims all lighting
4 Raise or off*	• Brightens all lighting or turns all off



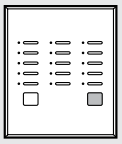
*For Softswitch128® raise/lower buttons act as additional programmable buttons.

Available models



5-button

10-button



15-button

Model numbers

OMX slim-button wallstation

5-button	NTOMX-KP5-**XX**[1]-**E**[1]
5-button (Japan)	NTOMX-KP5-JA-**XX**[1]-**E**[1]
10-button	NTOMX-KP10-**XX**[1]-**E**[1]
10-button (Japan)	NTOMX-KP10-JA-**XX**[1]-**E**[1]
15-button	NTOMX-KP15-**XX**[1]-**E**[1]
15-button (Japan)	NTOMX-KP15-JA-**XX**[1]-**E**[1]

Compatible with LCP128™ and Softswitch128® (XPS) systems.

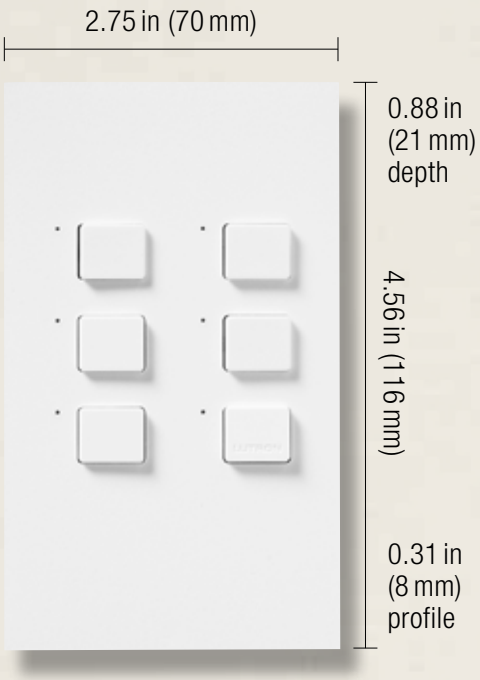
GRX slim-button wallstation

5-button	NTGRX-KP5-**XX**[1]-**E**[1]
5-button (Japan)	NTGRX-KP5-JA-**XX**[1]-**E**[1]
10-button	NTGRX-KP10-**XX**[1]-**E**[1]
10-button (Japan)	NTGRX-KP10-JA-**XX**[1]-**E**[1]
15-button	NTGRX-KP15-**XX**[1]-**E**[1]
15-button (Japan)	NTGRX-KP15-JA-**XX**[1]-**E**[1]

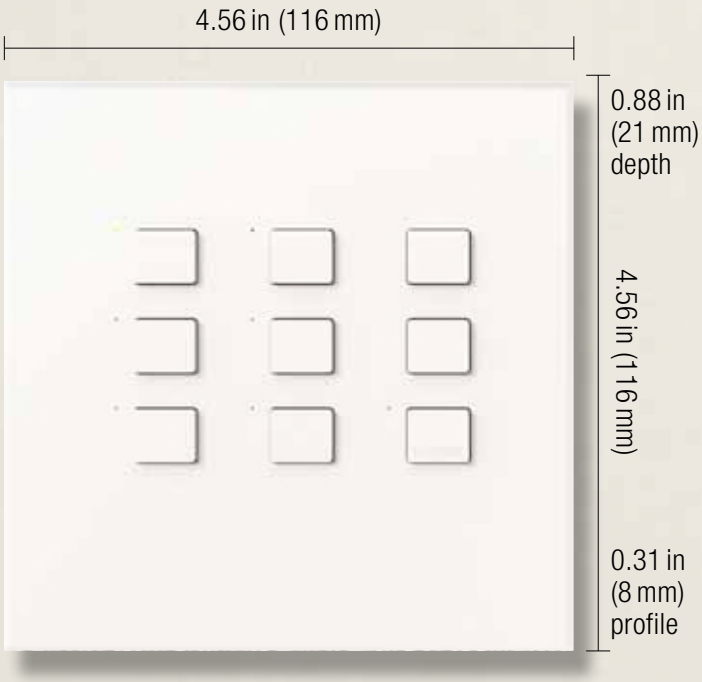
Compatible with the GRAFIK Eye® 4000 system.

XX[1]: Architectural matte and metal finishes, see pg. 310

E[1]: Engraving form required with order. If engraving not desired, omit "E."



Shown above: GRX Large-button 5-scene wallstation with off in White (NTGRX-LB6-WH)



Shown above: OMX Large-button 6-scene wallstation with raise/lower and off in White (NTOMX-LB9-RL-WH)

Features and capacities

- Offer the following functionality, dependent upon button configuration and system:
  - Toggle
  - Scene selection
  - Raise/lower zones or scenes
  - All off
  - Delay off
  - Enable/disable time clock
- Functionality may be selected in the field
- Large, easy-to-use buttons
- OMX models operate at 24 V DC; GRX models operate at 12/24 V DC
- Engraving available

Dimensions and mounting

5-scene with off and
3-scene with raise/lower and off

- Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

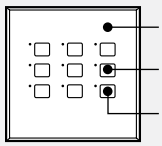
8-scene with off and
6-scene with raise/lower and off

- Width: 4.56 in (116 mm)
  Height: 4.56 in (116 mm)
  Depth: 0.88 in (21 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 2-gang U.S. backbox

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- OMX models—counts as one wallstation on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX models—GRAFIK Eye® 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each large-button wallstation counts as one wallstation

Available finishes

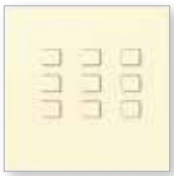


Use **BOLD** color code in model number (Example: NTOMX-LB9-**WH**)

Architectural matte finishes

WH
White F, B
Gray L

IV
Ivory F, B, L



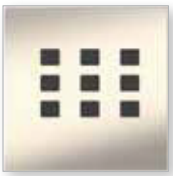
BE
Beige F, B, L

GR
Gray F, B, L

BR
Brown F, B, L

BL
Black F, B, L

Architectural metal finishes



BN
Bright Nickel F
Black B, L

BC
Bright Chrome F
Black B, L

CLA
Clear Anodized Aluminum F
Black B, L

SC
Satin Chrome F
Black B, L

SN
Satin Nickel F
Black B, L

QZ
Antique Bronze F
Black B, L

BB
Bright Brass F
Black B, L

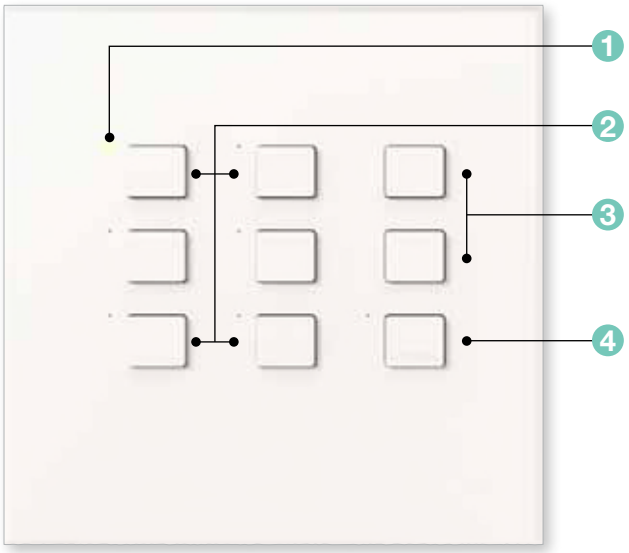
BRA
Brass Anodized Aluminum F
Black B, L

SB
Satin Brass F
Black B, L

QB
Antique Brass F
Black B, L

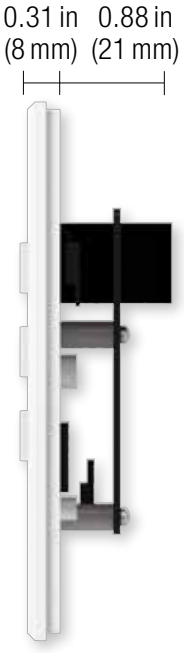
BLA
Black Anodized Aluminum F
Black B, L

Explanation of features



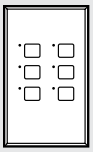
Large-button 6-scene wallstation with raise/lower and off

Features	
1 Status LEDs	• Indicate which wallstation button has been activated
2 Buttons	• Available with 3, 5, 6, or 8 buttons • Can provide toggle, scene selection, or enable/disable time clock and other functions
3 Raise/lower buttons*	• Brightens/dims all assigned lighting
4 Off	• Turns all lights off

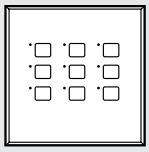


*For Softswitch128® raise/lower buttons act as additional programmable buttons.

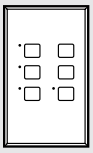
Available models



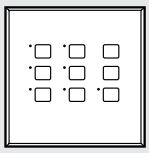
5-scene with off



8-scene with off



3-scene with raise/lower and off



6-scene with raise/lower and off

Model numbers

OMX large-button wallstation

5-scene with off	NTOMX-LB6-**XX**[1]-**E**[1]
5-scene with off (Japan)	NTOMX-LB6-JA-**XX**[1]-**E**[1]
8-scene with off	NTOMX-LB9-**XX**[1]-**E**[1]
8-scene with off (Japan)	NTOMX-LB9-JA-**XX**[1]-**E**[1]
3-scene with raise/lower and off	NTOMX-LB6-RL-**XX**[1]-**E**[1]
3-scene with raise/lower and off (Japan)	NTOMX-LB6RLJA-**XX**[1]-**E**[1]
6-scene with raise/lower and off	NTOMX-LB9-RL-**XX**[1]-**E**[1]
6-scene with raise/lower and off (Japan)	NTOMX-LB9RLJA-**XX**[1]-**E**[1]

Compatible with LCP128™ and Softswitch128® (XPS) systems.

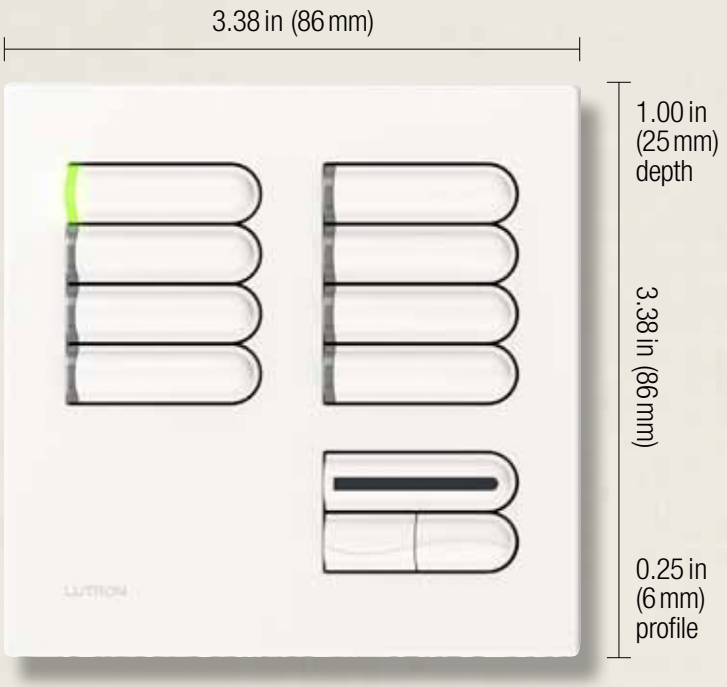
GRX large-button wallstation

5-scene with off	NTGRX-LB6-**XX**[1]-**E**[1]
5-scene with off (Japan)	NTGRX-LB6-JA-**XX**[1]-**E**[1]
8-scene with off	NTGRX-LB9-**XX**[1]-**E**[1]
8-scene with off (Japan)	NTGRX-LB9-JA-**XX**[1]-**E**[1]
3-scene with raise/lower and off	NTGRX-LB6-RL-**XX**[1]-**E**[1]
3-scene with raise/lower and off (Japan)	NTGRX-LB6RLJA-**XX**[1]-**E**[1]
6-scene with raise/lower and off	NTGRX-LB9-RL-**XX**[1]-**E**[1]
6-scene with raise/lower and off (Japan)	NTGRX-LB9RLJA-**XX**[1]-**E**[1]

Compatible with the GRAFIK Eye® 4000 system.

XX[1]: Architectural matte and metal finishes, see pg. 314

E[1]: Engraving form required with order. If engraving not desired, omit "E."



Shown above: OMX European-style 8-button wallstation with infrared receiver/off and raise/lower in White (EOMX-8S-IR-WH)

Features and capacities

- Offer the following functionality:
  - Toggle
  - Scene selection
  - Raise/lower zones or scenes
  - All off
  - Delay off
  - Enable/disable time clock
- In addition, the GRX 2-button model allows for zone lockout, partitioning, sequencing, fine-tuning and entrance and panic wallstation selection
- Functionality may be selected in the field
- Large, rounded buttons allow engraving to be displayed at an upward angle for increased readability
- OMX models operate at 24 V DC; GRX models operate at 12/24 V DC

Dimensions and mounting

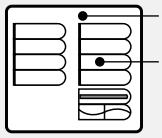
- Width: 3.38 in (86 mm)
  Height: 3.38 in (86 mm)
  Depth: 1.00 in (25 mm)
  Profile: 0.25 in (6 mm)
- Mounts in U.K./German single-gang backbox; Lutron supplies the backbox (P/N 241-683) with the wallstation in the U.S.

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- OMX models—counts as one wallstation on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX models—GRAFIK Eye® 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each European-style wallstation counts as one wallstation

Download specification submittal for EGRX
Download specification submittal for EOMX-2B
Download specification submittal for EOMX-4B
Download specification submittal for EOMX-4S
Download specification submittal for EOMX-4S-IR
Download specification submittal for EOMX-8S-IR
Download engraving sheet for faceplates

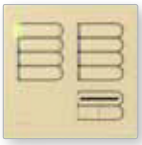
Available finishes



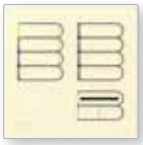
Use **BOLD** color code in model number (Example: EOMX-8S-IR-**WH**)

Architectural matte finishes

WH
White F, B



IV
Ivory F, B



BE
Beige F, B

GR
Gray F, B

BR
Brown F, B

BL
Black F, B

Architectural metal finishes

BN
Bright Nickel F
Black B

BC
Bright Chrome F
Black B

CLA
Clear Anodized Aluminum F
Black B

SC
Satin Chrome F
Black B

SN
Satin Nickel F
Black B

QZ
Antique Bronze F
Black B

BB
Bright Brass F
Black B

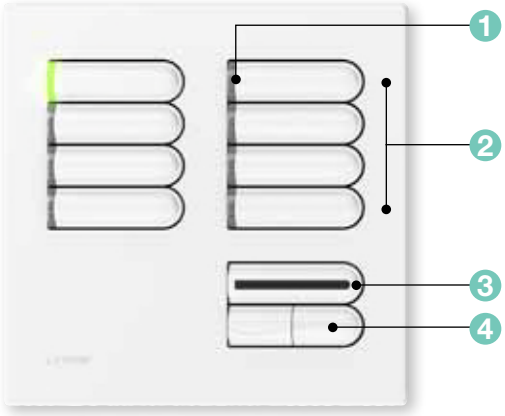
BRA
Brass Anodized Aluminum F
Black B

SB
Satin Brass F
Black B

QB
Antique Brass F
Black B

BLA
Black Anodized Aluminum F
Black B

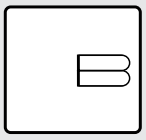
Explanation of features



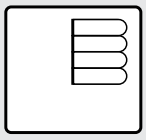
European-style OMX 8-button wallstation with infrared (IR) receiver/off and raise/lower

	Features
1 Status LEDs	• Indicate which wallstation button has been activated • Large LEDs to clearly show status
2 Programmable buttons	• Available with 2, 4, or 8 buttons • Can provide toggle, scene selection, or enable/disable time clock, and other functions
3 IR receiver/off	• Offers convenient control of lights from IR remote control, see pg. 292 • Button turns all lights off
4 Raise/lower buttons	• Brightens/dims all assigned lighting

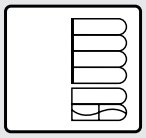
Available models



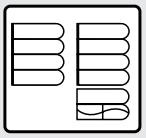
2-button



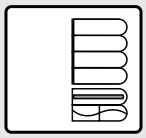
4-button



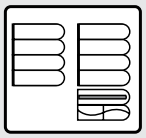
4-scene with raise/lower and off



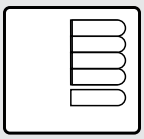
8-scene with raise/lower and off



4-scene with IR/off and raise/lower



8-scene with IR/off and raise/lower



4-button with master

Model numbers

OMX European-style wallstations

2-button	EOMX-2B-**XX**[1]-**E**[1]
4-button	EOMX-4B-**XX**[1]-**E**[1]
4-scene with raise/lower and off	EOMX-4S-**XX**[1]-**E**[1]
8-scene with raise/lower and off	EOMX-8S-**XX**[1]-**E**[1]
4-scene with IR/off and raise/lower	EOMX-4S-IR-**XX**[1]-**E**[1]
8-scene with IR/off and raise/lower	EOMX-8S-IR-**XX**[1]-**E**[1]

Compatible with LCP128™ and Softswitch128® (XPS) systems.

GRX European-style wallstations

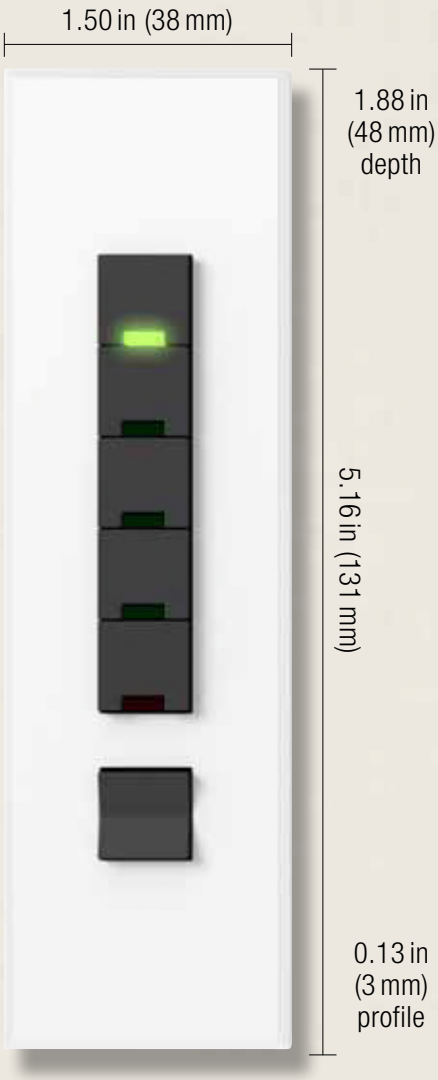
2-button	EGRX-2B-SL-**XX**[1]-**E**[1]
4-button	EGRX-4B-**XX**[1]-**E**[1]
4-scene with raise/lower and off	EGRX-4S-**XX**[1]-**E**[1]
8-scene with raise/lower and off	EGRX-8S-**XX**[1]-**E**[1]
4-scene with IR/off, and raise/lower	EGRX-4S-IR-**XX**[1]-**E**[1]
8-scene with IR/off, and raise/lower	EGRX-8S-IR-**XX**[1]-**E**[1]
4-button master control	EGRX-4M-**XX**[1]-**E**[1]

Compatible with the GRAFIK Eye® 4000 system.

XX[1]: Architectural matte and metal finishes, see pg. 318

E[1]: Engraving form required with order. If engraving not desired, omit "E."

Shown actual size: OMX Architrave slim-button 4-scene wallstation with raise/lower and off in White (OMX-7B-DW-WH)



Shown actual size: OMX Architrave large-button 4-scene wallstation with raise/lower and off in White (OMX-4SLB-DW-WH)

Download specification submittal for Architrave
Download specification submittal for OMX-2B-DW
Download specification submittal for OMX-4SLB-DW
Download specification submittal for OMX-7B-DW
Download engraving sheet for faceplates

Features and capacities

- Offer the following functionality, dependent upon button configuration and system:
  - Toggle
  - Scene selection
  - Raise/lower zones or scenes
  - All off
  - Enable/disable time clock
- Functionality may be selected in the field
- Fits into door jamb, door trim or standard switch location—occupants can adjust lighting as they enter a room
- OMX models operate at 24 V DC; GRX models operate at 12/24 V DC
- Engraving available

Dimensions and mounting

OMX/GRX slim-button

- Width: 1.75 in (44 mm)
  Height: 4.50 in (114 mm)
  Depth: 1.50 in (38 mm)
  Profile: 0.13 in (3 mm) for GRX
  0.25 in (6 mm) for OMX
- Mounts in Lutron-supplied backbox (P/N 241-399)

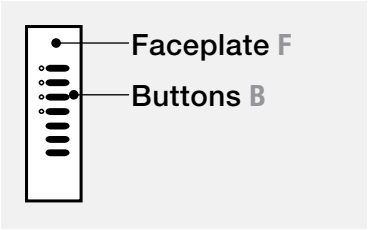
OMX/GRX large-button

- Width: 1.50 in (38 mm)
  Height: 5.16 in (131 mm)
  Depth: 1.88 in (48 mm)
  Profile: 0.13 in (3 mm)
- Mounts in Lutron-supplied backbox (P/N 241-663)

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- OMX models—counts as one wallstation on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX models—GRAFIK Eye® 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each Architrave wallstation counts as one wallstation

Available finishes



Use **BOLD** color code in model number (Example: OMX-7B-DW-**WH**)

Architectural matte finishes

WH
White F
Black B

IV
Ivory
Black B

BE
Beige F
Black B

GR
Gray F
Black B

BR
Brown F
Black B

BL
Black F
Black B

Architectural metal finishes

BC
Bright Chrome F
Black B

CLA
Clear Anodized Aluminum F
Black B

SC
Satin Chrome F
Black B

SN
Satin Nickel F
Black B

QZ
Antique Bronze F
Black B

BB
Bright Brass F
Black B

BRA
Brass Anodized Aluminum F
Black B

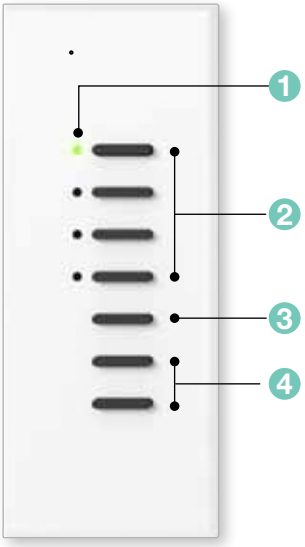
SB
Satin Brass F
Black B

QB
Antique Brass F
Black B

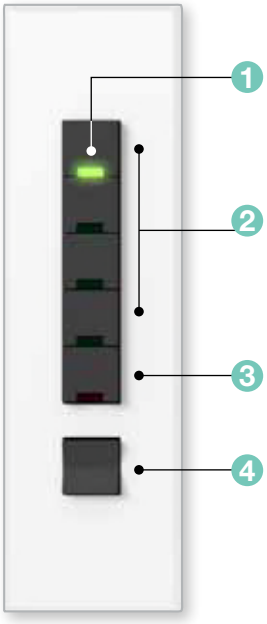
BLA
Black Anodized Aluminum F
Black B

* Finish option only available for Architrave large-button wallstation, not available for slim-button.

Explanation of features



Architrave slim-button (top) and large-button (bottom) 4-scene wallstation with raise/lower and off



	Features
1 Status LEDs	• Indicate which wallstation button has been activated
2 Buttons	• OMX models available with two or four buttons • GRX models available with four buttons • Can provide toggle, scene selection, or enable/ disable time clock and other functions
3 Off	• Turns all lights off
4 Raise/lower buttons*	• Brightens/dims all assigned lighting

* For Softswitch128® raise/lower buttons act as additional programmable buttons.

Available models

2-button slim-button

4-scene slim-button with raise/lower and off

4-scene slim-button with off

4-scene large-button with raise/lower and off

Model numbers

OMX Architrave wallstation

2-button slim-button	OMX-2B-DW-**XX**[1]-**E**[1]
4-scene slim-button with raise/lower and off	OMX-7B-DW-**XX**[1]-**E**[1]
4-scene slim-button with off	OMX-7B-NRL-DW-**XX**[1]-**E**[1]
4-scene large-button with raise/lower and off	OMX-4SLB-DW-**XX**[1]-**E**[1]

Compatible with LCP128™ and Softswitch128® (XPS) systems.

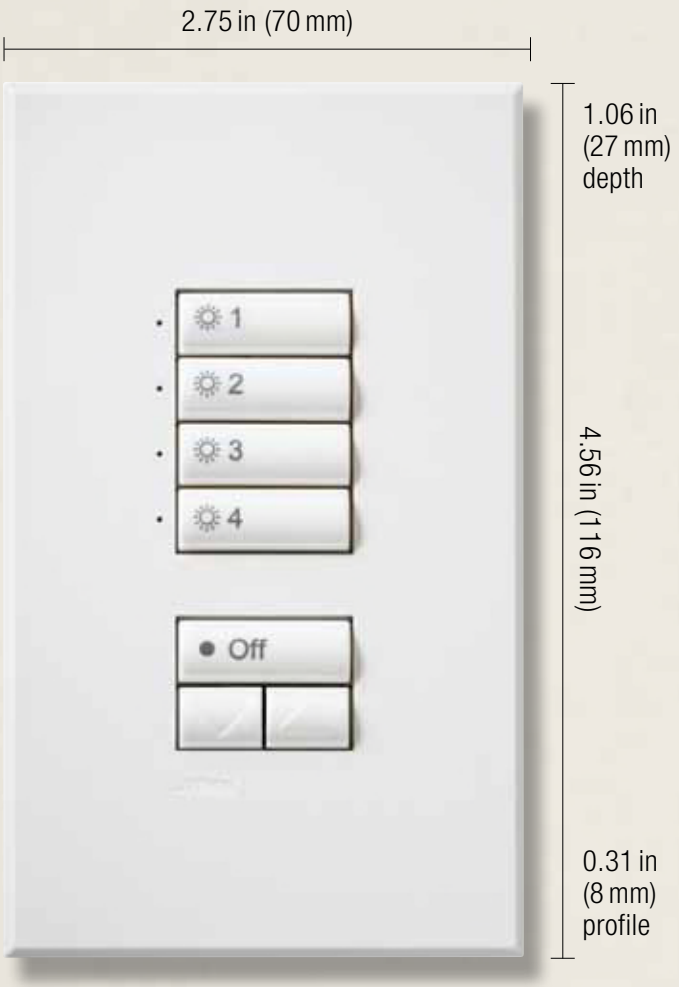
GRX Architrave wallstation

4-scene slim-button with raise/lower and off	GRX-4S-DW-**XX**[1]-**E**[1]
4-scene slim-button with raise/lower and off (Japan)	GRX-4S-DW-JA-**XX**[1]-**E**[1]
4-scene large-button with raise/lower and off	GRX-4SLB-DW-**XX**[1]-**E**[1]

Compatible with the GRAFIK Eye® 4000 system.

XX[1]: Architectural matte and metal finishes, see pg. 323

E[1]: Engraving form required with order. If engraving not desired, omit "E."



Shown actual size: OMX seeTouch non-insert style 4-scene keypad with raise/lower and off in White (SO-4SN-WH-EGN)

Download specification submittals
Download engraving sheet for faceplates

Features and capacities

- Offer the following functionality, dependant upon button configuration and system:
  - Toggle
  - Scene selection
  - Raise/lower zones or scenes
  - All off
  - Delay to off
  - Enable/ disable time clock
- In addition, the GRX 2-button model allows for zone lockout, partitioning, sequencing, fine tuning and entrance and panic keypad selection
- Functionality may be selected in the field
- Front accessible DIP switches allow change of function without removing the unit from the wall
- Standard OMX models include two contact closure inputs on the back of the keypad; models also available with an occupancy sensor connection that supplies power to and receives control signals from a wired occupancy sensor
- OMX models operate at 24 V DC; GRX models operate at 12/24 V DC
- Large, rounded buttons are easy to use
- Backlit buttons or text make it easy to find and operate keypad in low-light conditions

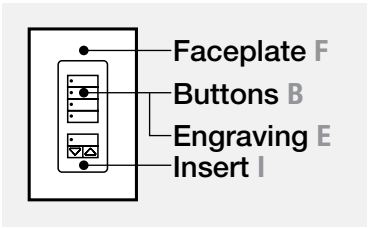
Dimensions and mounting

- 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 to the main control unit and other system components
- OMX models—counts as one keypad on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX models—GRAFIK Eye® 4000 system can have up to 16 total keypads/wallstations and/or control interfaces; each seeTouch keypad counts as one keypad

Available finishes



Use **BOLD** color code in model number (Example: SO-4SI-**WH**)

Gloss finishes (Available for insert style keypads only; coordinating faceplates included)

GWH
White F, I, B
Gray E

GLA
Light Almond F, I, B
Gray E

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

SW
Snow F, I, B
Gray E

LS
Limestone F, I
Gray B
White E

BI
Biscuit F, I B
Gray E

ES
Eggshell F, I, B
Gray E

PD
Palladium F, I
Gray B
White E

TP
Taupe F, I, B
Gray E

ST
Stone F, I
Gray B
White E

BG
Bluestone F, I
Gray B
White E

PL
Plum F, I
Taupe B
Gray E

SG
Sea Glass F, I
Gray B
White E

TQ
Turquoise F, I
Gray B
White E

GS
Goldstone F, I
Ivory B
Gray E

DS
Desert Stone F, I
Taupe B
Gray E

GB
Greenbriar F, I
Gray B
White E

MS
Mocha Stone F, I
Taupe B
Gray E

TC
Terracotta F, I
Taupe B
Gray E

SI
Sienna F, I
Brown B
White E

HT
Hot F, I
Taupe B
Gray E

MR
Merlot F, I
Taupe B
Gray E

MN
Midnight F, I, B
Gray E

Available finishes

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

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

BE
Beige **F, I, B**
Gray **E**

IV
Ivory **F, I, B**
Gray **E**

GR
Gray **F, I, B**
White **E**

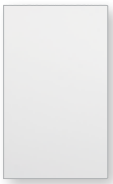
TP
Taupe **F, I, B**
Gray **E**

BR
Brown **F, I, B**
White **E**

BL
Black **F, I, B**
White **E**

Architectural metal finishes (available for insert and non-insert style keypads; coordinating faceplates included)

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



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

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

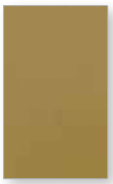
SC
Satin Chrome **F**
Black **B, I**
White **E**

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

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

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

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

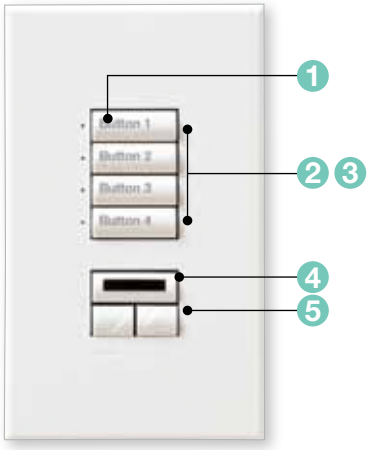


SB
Satin Brass **F**
Black **B, I**
White **E**

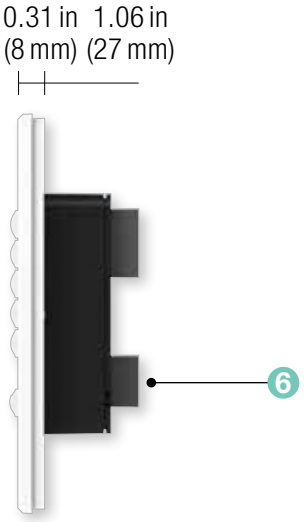
QB
Antique Brass **F**
Black **B, I**
White **E**

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

Explanation of features



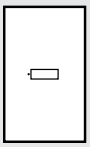
Non-insert style seeTouch 4-scene keypads with infrared receiver/off and raise/lower



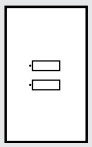
	Features
1 Status LEDs	• Indicate which keypad button has been activated
2 Buttons	• OMX models available with 1-7 buttons • GRX models available with two or four buttons • Can provide toggle, scene selection, or enable/disable time clock and other functions
3 Backlit buttons or text	• Easy to read and use in low-light conditions
4 Infrared receiver (IR)/off	• Offers convenient control of lights from IR remote control, see pg. 292 • Button turns all lights off
5 Raise/lower buttons	• Brightens/dims all assigned lighting

Available models

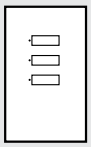
(Available in insert and non-insert styles, non-insert style shown)



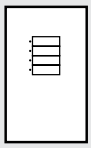
1-button



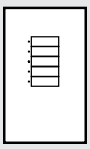
2-button



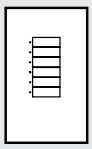
3-button



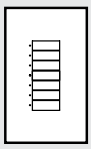
4-button



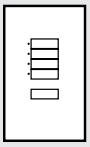
5-button



6-button

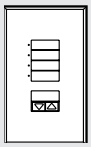


7-button

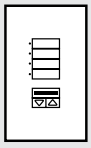


4-scene with off

4-button with master



4-scene with raise/lower and off



4-scene with infrared receiver/off and raise/lower

4-scene with infrared receiver programming/off and raise/lower

OMX seeTouch keypad model numbers

Keypads

1-button	
Non-insert style	SO-1BN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-1BON-**XX**[1]-**EEE**[1]
Insert style	SO-1BI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-1BOI-**XX**[2]-**EEE**[1]

2-button	
Non-insert style	SO-2BN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-2BON-**XX**[1]-**EEE**[1]
Insert style	SO-2BI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-2BOI-**XX**[2]-**EEE**[1]

3-button	
Non-insert style	SO-3BN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-3BON-**XX**[1]-**EEE**[1]
Insert style	SO-3BI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-3BOI-**XX**[2]-**EEE**[1]

4-button	
Non-insert style	SO-4BN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-4BON-**XX**[1]-**EEE**[1]
Insert style	SO-4BI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-4BOI-**XX**[2]-**EEE**[1]

XX[1]: Architectural matte and metal color codes, see pg. 328

XX[2]: Gloss, architectural matte, metal and Satin color codes, see pgs. 327-328 (Coordinating faceplates not included with Satin Colors®, order separately, see pg. 641)

EEE[1]: Engraving codes, see pgs. 667-668

OMX seeTouch keypad model numbers

Keypads (continued)

5-button

Non-insert style	SO-5BN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-5BON-**XX**[1]-**EEE**[1]
Insert style	SO-5BI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-5BOI-**XX**[2]-**EEE**[1]

6-button

Non-insert style	SO-6BN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-6BON-**XX**[1]-**EEE**[1]
Insert style	SO-6BI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-6BOI-**XX**[2]-**EEE**[1]

7-button

Non-insert style	SO-7BN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-7BON-**XX**[1]-**EEE**[1]
Insert style	SO-7BI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-7BOI-**XX**[2]-**EEE**[1]

Compatible with LCP128™ and Softswitch128® (XPS).

Keypads with off

4-scene with off

Non-insert style	SO-4NRLN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-4NRLON-**XX**[1]-**EEE**[1]
Insert style	SO-4NRLI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-4NRLOI-**XX**[2]-**EEE**[1]

Compatible with LCP128 and Softswitch128 (XPS).

Keypads with raise/lower and off

4-scene with raise/lower and off

Non-insert style	SO-4SN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-4SON-**XX**[1]-**EEE**[1]
Insert style	SO-4SI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-4SOI-**XX**[2]-**EEE**[1]

Compatible with LCP128 and Softswitch128 (XPS).

Keypads with infrared receiver/off and raise/lower

4-scene with infrared receiver/off and raise/lower

Non-insert style	SO-4SIRN-**XX**[1]-**EEE**[1]
Non-insert style with occupancy sensor connection	SO-4SIRON-**XX**[1]-**EEE**[1]
Insert style	SO-4SIRI-**XX**[2]-**EEE**[1]
Insert style with occupancy sensor connection	SO-4SIROI-**XX**[2]-**EEE**[1]

Compatible with LCP128 and Softswitch128 (XPS).

XX[1]: Architectural matte and metal color codes, see pg. 328

XX[2]: Gloss, architectural matte, metal and Satin color codes, see pgs. 327-328 (Coordinating faceplates not included with Satin Colors®, order separately, see pg. 641)

EEE[1]: Engraving codes, see pgs. 667-668

GRX seeTouch keypad model numbers

Keypads

2-button

Non-insert style	SG-2BN-**XX**[1]-**EEE**[1]
Insert style	SG-2BI-**XX**[2]-**EEE**[1]

4-button

Non-insert style	SG-4BN-**XX**[1]-**EEE**[1]
Insert style	SG-4BI-**XX**[2]-**EEE**[1]

Compatible with the GRAFIK Eye® 4000 system.

Keypad with master

4-button with master

Non-insert style	SG-4MN-**XX**[1]-**EEE**[1]
Insert style	SG-4MI-**XX**[2]-**EEE**[1]

Compatible with the GRAFIK Eye 4000 system.

Keypad with off

4-scene with off

Non-insert style	SG-4NRLN-**XX**[1]-**EEE**[1]
Insert style	SG-4NRLI-**XX**[2]-**EEE**[1]

Compatible with the GRAFIK Eye 4000 system.

Keypads with raise/lower and off

4-scene with raise/lower and off

Non-insert style	SG-4SN-**XX**[1]-**EEE**[1]
Insert style	SG-4SI-**XX**[2]-**EEE**[1]

Compatible with the GRAFIK Eye 4000 system.

Keypads with infrared receiver/off and raise/lower

4-scene with infrared receiver/off and raise/lower

Non-insert style	SG-4SIRN-**XX**[1]-**EEE**[1]
Insert style	SG-4SIRI-**XX**[2]-**EEE**[1]

Compatible with the GRAFIK Eye 4000 system.

XX[1]: Architectural matte and metal color codes, see pg. 328

XX[2]: Gloss, architectural matte, metal and Satin color codes, see pgs. 327-328 (Coordinating faceplates not included with Satin Colors®, order separately, see pg.641)

EEE[1]: Engraving codes, see pgs. 667-668

seeTouch keypad faceplate kit model numbers

Faceplate kits

1-button

Non-insert style	SR-1BN-**XX**[1]-**EEE**[1]
Insert style	SR-1BI-**XX**[2]-**EEE**[1]

2-button

Non-insert style	SR-2BN-**XX**[1]-**EEE**[1]
Insert style	SR-2BI-**XX**[2]-**EEE**[1]

3-button

Non-insert style	SR-3BN-**XX**[1]-**EEE**[1]
Insert style	SR-3BI-**XX**[2]-**EEE**[1]

4-button

Non-insert style	SR-4BN-**XX**[1]-**EEE**[1]
Insert style	SR-4BI-**XX**[2]-**EEE**[1]

5-button

Non-insert style	SR-5BN-**XX**[1]-**EEE**[1]
Insert style	SR-5BI-**XX**[2]-**EEE**[1]

6-button

Non-insert style	SR-6BN-**XX**[1]-**EEE**[1]
Insert style	SR-6BI-**XX**[2]-**EEE**[1]

7-button

Non-insert style	SR-7BN-**XX**[1]-**EEE**[1]
Insert style	SR-7BI-**XX**[2]-**EEE**[1]

Includes faceplate, buttons, and insert (when applicable). Compatible with seeTouch keypads.

Faceplate kits with master

4-button with master

Non-insert style	SR-4MN-**XX**[1]-**EEE**[1]
Insert style	SR-4MI-**XX**[2]-**EEE**[1]

Includes faceplate, buttons, and insert (when applicable). Compatible with seeTouch keypads.

Faceplate kits with off

4-scene with off

Non-insert style	SR-4NRLN-**XX**[1]-**EEE**[1]
Insert style	SR-4NRLI-**XX**[2]-**EEE**[1]

Includes faceplate, buttons, and insert (when applicable). Compatible with seeTouch keypads.

Faceplate kits with raise/lower and off

4-scene with raise/lower and off

Non-insert style	SR-4SN-**XX**[1]-**EEE**[1]
Insert style	SR-4SI-**XX**[2]-**EEE**[1]

Includes faceplate, buttons, and insert (when applicable). Compatible with seeTouch keypads.

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

4-scene with IR receiver/off and raise/lower

Non-insert style	SR-4SIRN-**XX**[1]-**EEE**[1]
Insert style	SR-4SIRI-**XX**[2]-**EEE**[1]

Includes faceplate, buttons, and insert (when applicable). Compatible with seeTouch keypads.

IR faceplate kits require IR seeTouch keypads with IR functionality.

XX[1]: Architectural matte and metal color codes, see pg. 328

XX[2]: Gloss, architectural matte, metal and Satin color codes, see pgs. 327-328 (Coordinating faceplates not included with Satin Colors®, order separately, see pg. 642)

EEE[1]: Engraving codes, see pgs. 667-668

seeTouch keypad button kit model numbers

Button kits

1-button

Non-insert style	SB-1BN-**XX**[1]-**EEE**[1]
Insert style	SB-1BI-**XX**[2]-**EEE**[1]

2-button

Non-insert style	SB-2BN-**XX**[1]-**EEE**[1]
Insert style	SB-2BI-**XX**[2]-**EEE**[1]

3-button

Non-insert style	SB-3BN-**XX**[1]-**EEE**[1]
Insert style	SB-3BI-**XX**[2]-**EEE**[1]

4-button

Non-insert style	SB-4BN-**XX**[1]-**EEE**[1]
Insert style	SB-4BI-**XX**[2]-**EEE**[1]

5-button

Non-insert style	SB-5BN-**XX**[1]-**EEE**[1]
Insert style	SB-5BI-**XX**[2]-**EEE**[1]

6-button

Non-insert style	SB-6BN-**XX**[1]-**EEE**[1]
Insert style	SB-6BI-**XX**[2]-**EEE**[1]

7-button

Non-insert style	SB-7BN-**XX**[1]-**EEE**[1]
Insert style	SB-7BI-**XX**[2]-**EEE**[1]

Compatible with seeTouch keypads.

Button kits with master

4-button with master

Non-insert style	SB-4MN-**XX**[1]-**EEE**[1]
Insert style	SB-4MI-**XX**[2]-**EEE**[1]

Compatible with seeTouch keypads.

Button kits with off

4-scene with off

Non-insert style	SB-4NRLN-**XX**[1]-**EEE**[1]
Insert style	SB-4NRLI-**XX**[2]-**EEE**[1]

Compatible with seeTouch keypads.

Button kits with raise/lower and off

4-scene with raise/lower and off

Non-insert style	SB-4SN-**XX**[1]-**EEE**[1]
Insert style	SB-4SI-**XX**[2]-**EEE**[1]

Compatible with seeTouch keypads.

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

4-scene with IR receiver/off and raise/lower

Non-insert style	SB-4SIRN-**XX**[1]-**EEE**[1]
Insert style	SB-4SIRI-**XX**[2]-**EEE**[1]

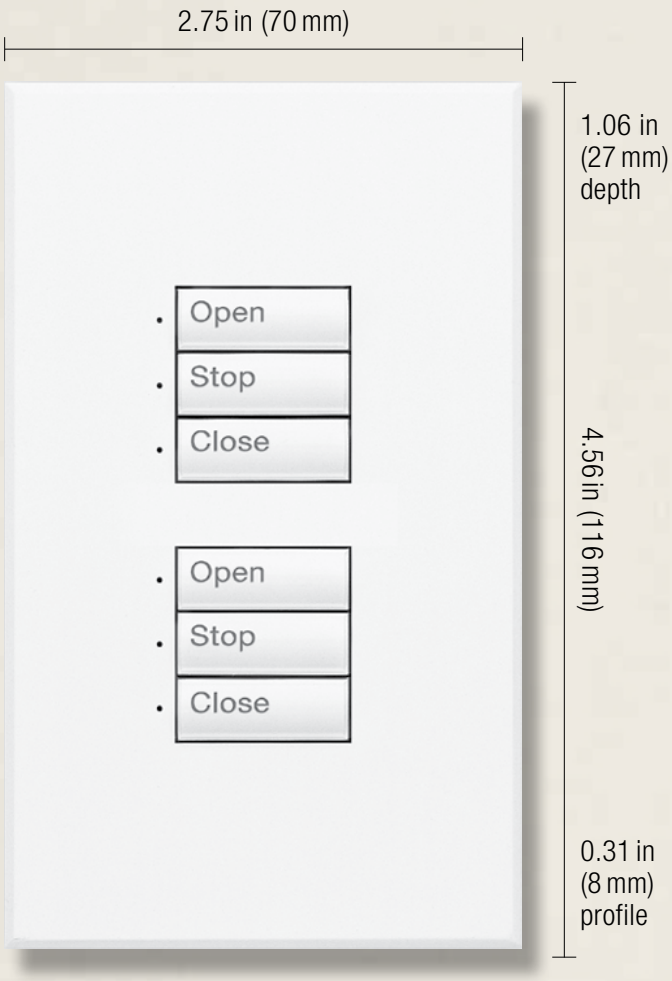
Compatible with seeTouch keypads.

IR button kits require IR seeTouch keypads with IR functionality.

XX[1]: Limited architectural matte color codes, see pg. 328 for corresponding button colors

XX[2]: Limited gloss, architectural matte, and Satin Colors® codes, see pgs. 327-328 for corresponding button colors

EEE[1]: Engraving codes, see pgs. 667-668



Shown above: seeTouch non-insert style dual 3-button window treatment keypad in White (SG-3WDN-WH-E01)

Features and capacities

- Offers the following functionality, dependant on button configuration:
  - Open
  - Close
  - Stop
  - Raise/lower
  - Preset
- Used to control one or more window treatment zones simultaneously on GRAFIK Eye® control unit
- Can control Sivoia® QED and AC motorized window treatments
- Front addressable DIP switches allow change of address without removing the unit from the wall
- Large round buttons are easy to use
- Backlit buttons or text make it easy to find and operate the keypad in low light conditions
- Shipped with standard engraving, custom engraving available
- Operate at 24 V DC

Dimensions and mounting

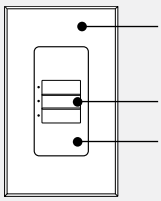
- Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.06 in (27 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

Communications and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- GRAFIK Eye 4000 system can have up to sixteen keypads/wallstations and/or control interfaces; each seeTouch window treatment keypad counts as one keypad

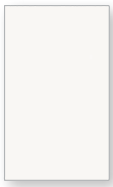
Download specification submittal (2-button)
Download specification submittal (dual 3-button)
Download specification submittal (3-button)
Download specification submittal (3-button with raise/lower)
Download specification submittal (5-button preset with raise/lower)
Download engraving sheet

Available finishes

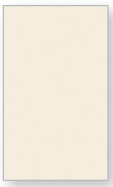


Use **BOLD** color code in model number (Example: SG-3WDN-**WH-**E01)

Gloss finishes (Available for insert style keypads only; coordinating faceplates included)

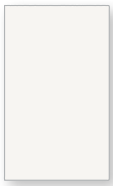


GWH
White F, I, B
Gray E

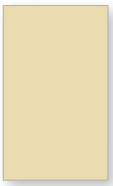


GLA
Light Almond F, I, B
Gray E

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



WH
White F, I, B
Gray E



IV
Ivory F, I, B
Gray E

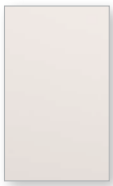
BE
Beige F, I, B
Gray E

GR
Gray F, I, B
Gray E

TP
Taupe F, B
(non-insert only)
Gray E

BR
Brown F, B
White E

BL
Black F, B
White E



BN
Bright Nickel F
Black B, I
White E

BC
Bright Chrome F
Black B, I
White E

CLA
Clear Anodized
Aluminum F
Black B, I
White E

SC
Satin Chrome F
Black B, I
White E

SN
Satin Nickel F
Black B, I
White E

QZ
Antique Bronze F
Black B, I
White E

BB
Bright Brass F
Black B, I
White E

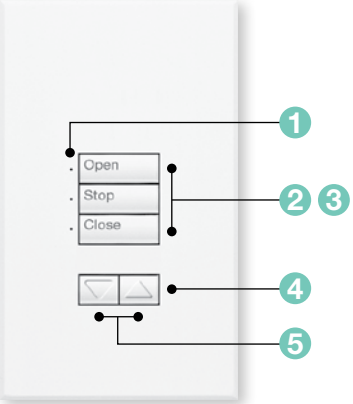
BRA
Brass Anodized
Aluminum F
Black B, I
White E

SB
Satin Brass F
Black B, I
White E

QB
Antique Brass F
Black B, I
White E

BLA
Black Anodized
Aluminum F
Black B, I
White E

Explanation of features

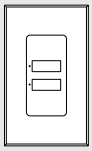


Non-insert style seeTouch window treatment keypads

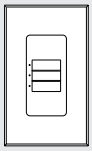
	Features
1 Status LEDs	• Indicate which keypad button has been activated
2 Buttons	• Available with 2, 3, or 5 scene preset options • Can provide Open, Stop, Close or Preset functionality depending on button configuration
3 Backlit button	• Easy to read and use in low-light conditions
4 Raise/lower buttons	• Raises/lowers assigned shades
5 Dual button configurations	• Keypad functions as two independently programmable controllers

Available models

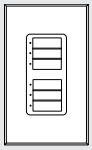
(Available in insert and non-insert styles, insert style shown)



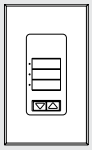
2-button



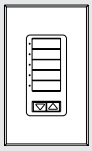
3-button



Dual 3-button



3-button with raise/lower



5-button preset with raise/lower

Model numbers

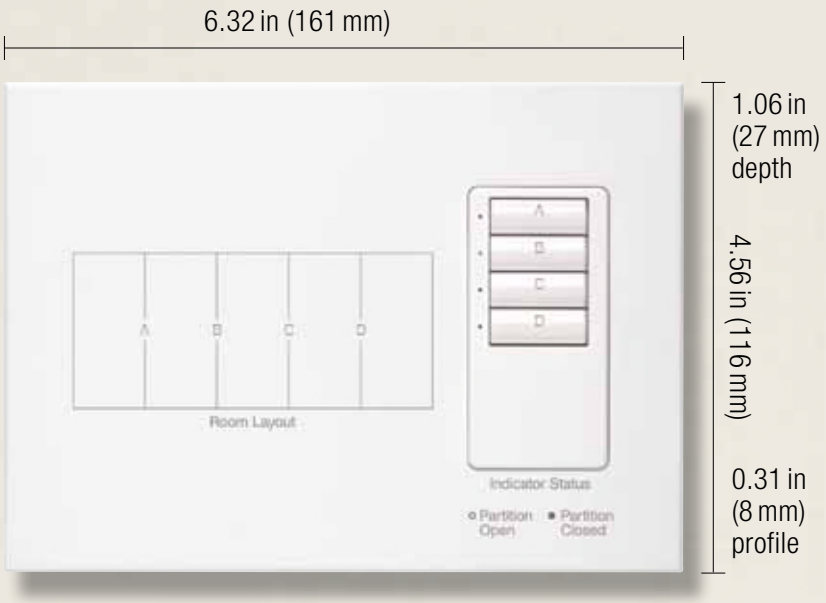
seeTouch window treatment keypads

2-button, non-insert style	SG-2WN-**XX**[1]**-E01**
2-button, insert style	SG-2WI-**XX**[1]**-E01**
3-button, non-insert style	SG-3WN-**XX**[1]**-E01**
3-button, insert style	SG-3WI-**XX**[1]**-E01**
Dual 3-button, non-insert style	SG-3WDN-**XX**[1]**-E01**
Dual 3-button, insert style	SG-3WDI-**XX**[1]**-E01**
3-button with raise/lower, non-insert style	SG-3WRLN-**XX**[1]**-E01**
3-button with raise/lower, insert style	SG-3WRLI-**XX**[1]**-E01**
5-button preset with raise/lower, non-insert style	SG-5WRLN-**XX**[1]**-E01**
5-button preset with raise/lower, insert style	SG-5WRLI-**XX**[1]**-E01**

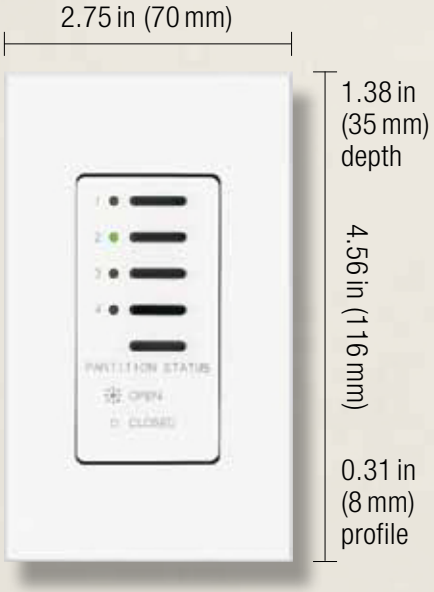
Compatible with the GRAFIK Eye® 4000 system.

XX[1]: Gloss, architectural matte and metal finishes, see pg. 336

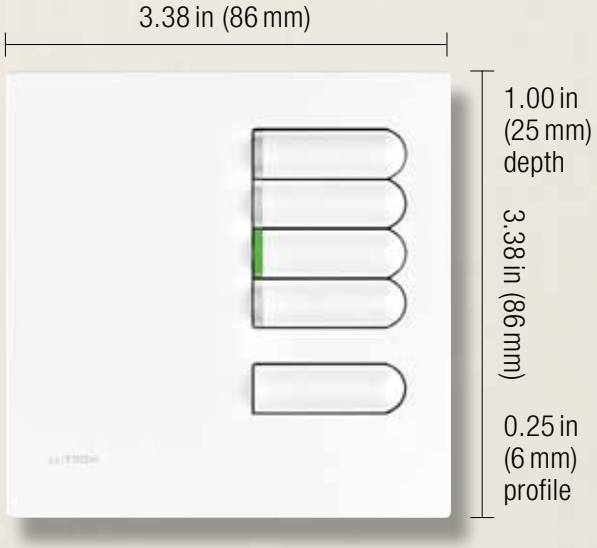
E01: Standard engraving, no engraving form required. If custom engraving required replace “E01” with “EGN” and include engraving form with order.



Shown above: seeTouch® partition status keypad with custom-engraved faceplate in White (SG-4PS-CF-WH-E)



Shown above: Architectural partition status wallstation in White (NTGRX-4PS-WH)



Shown above: European-style partition status wallstation in White (EGRX-4PS-WH)

Download specification submittal
Download engraving sheet for faceplates

Features and capacities

- Coordinates lighting for up to four movable walls (five rooms)
- Each toggle button is set-up to operate the main control unit associated with a moveable wall
- When the wall is open to make one large space, the user presses the toggle button associated to the wall to turn on the LED; the main control units assigned to that button will then work in combination
- When the wall is closed to make several smaller spaces, the user presses the toggle button associated to the wall to turn off the LED; the main control unit assigned to that button will then work independently
- The bottom button resets all main control units
- Available in three wallstation/keypad styles—seeTouch®, Architectural and European-style; seeTouch keypads and Architectural wallstations are available with custom-engraved faceplate with floor plan to match project
- Operates at 12/24 V DC

Dimensions and mounting

seeTouch

- Without custom-engraved faceplate:
  Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.06 in (27 mm)
  Profile: 0.31 in (8 mm)
- With custom-engraved faceplate:
  Width: 6.32 in (161 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.06 in (27 mm)
  Profile: 0.31 in (8 mm)
- Mounts in standard 1-gang U.S. backbox

Architectural

- Without custom-engraved faceplate:
  Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)
- With custom-engraved faceplate:
  Width: 6.32 in (161 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)
- Mounts in standard 1-gang U.S. backbox

European-style

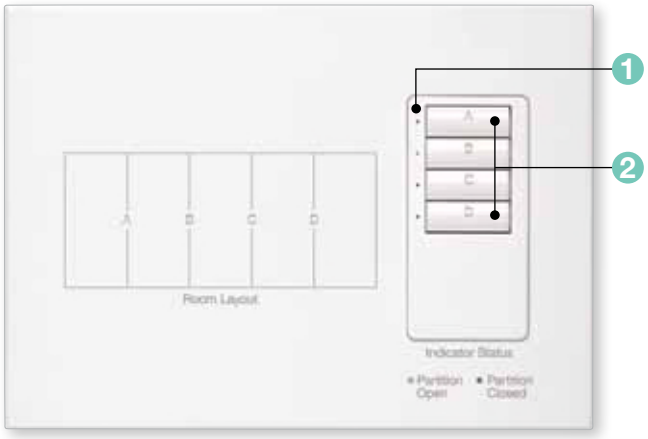
- Width: 3.38 in (86 mm)
  Height: 3.38 in (86 mm)
  Depth: 1.00 in (25 mm)
  Profile: 0.25 in (6 mm)
- Mounts in U.K./German 1-gang backbox (P/N 241-683)

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- GRAFIK Eye® 4000 system can have up to 16 total keypads/wallstations and/or control interfaces; each partition control counts as one keypad/wallstation

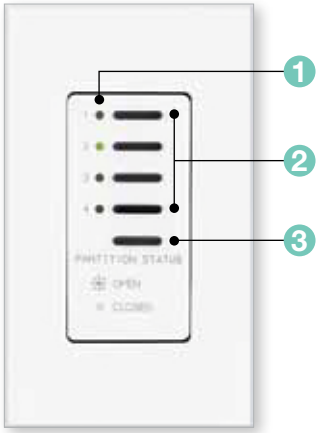
Download specification submittal
Download engraving sheet for faceplates

Explanation of features

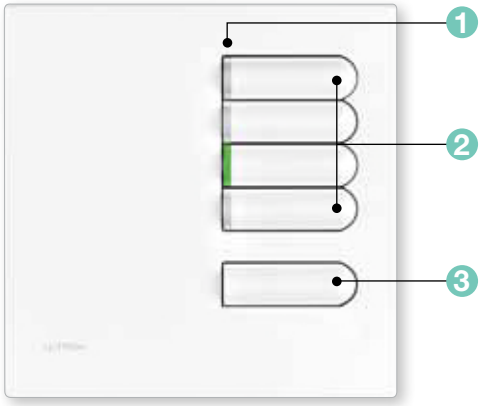


seeTouch® partition status wallstation

Features	
1 LEDs	• Visual indicator whether a wall is deemed open or closed
2 Toggle buttons	• Set-up to operate the main control unit associated with a moveable wall • Press to advise main control units to work in combination or independently
3 Reset button	• Resets all main control units to independent operation



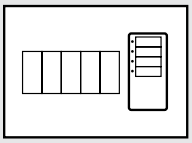
Architectural partition status wallstation



European-style partition status wallstation

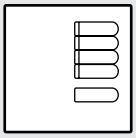
Available models

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



seeTouch® partition status keypad

Architectural partition status wallstation



European-style partition status wallstation

Model numbers

seeTouch partition status keypad

Insert version without custom-engraved faceplate	SG-4PSI-**XX**[1]-**EEE**[1]
Non-insert version without custom-engraved faceplate	SG-4PSN-**XX**[1]-**EEE**[1]
Insert version with custom-engraved faceplate	SG-4PS-CF-**XX**[2]-**E**[1]

Compatible with the GRAFIK Eye® 4000 system.

Architectural partition status wallstation

Without custom-engraved faceplate	NTGRX-4PS-**XX**[2]-**E**[2]
With custom-engraved faceplate	NTGRX-4PS-CF-**XX**[2]-**E**[2]

Compatible with the GRAFIK Eye 4000 system.

European-style partition status wallstation

Partition wallstation	EGRX-4PS-**XX**[3]-**E**[2]

Compatible with the GRAFIK Eye 4000 system.

XX[1]: Gloss, architectural matte, metal, and Satin color codes, see pgs. 327-328 (Coordinating faceplates not included with Satin colors, order separately, see pg.642)
XX[2]: Architectural matte and metal color codes, see pg. 306
XX[3]: Architectural matte and metal color codes, see pg. 318
EEE[1]: Engraving code required, see pg. 667-668
E[1]: Engraving form required with order
E[2]: Engraving form required with order. If engraving not desired, omit “E”.

Shown above: OMX Architectural keyswitch in 1-gang matte finish faceplate in White (NTOMX-KS-WH)

Download specification submittal

Features and capacities

- Limits access to lighting control system, requires authorized personnel to use a key
- OMX models provide scene selection or enable/disable time clock functionality
- GRX models allow the following functionality:
  - Scene selection
  - Entrance or panic wallstation selection
  - Fine-tuning
  - Partitioning
  - Zone lockout
  - Sequencing
- Functionality may be selected in the field
- Ideal for use in public spaces
- Available in two wallstation styles: Architectural (non-insert or insert) and European-style

Dimensions and mounting

Architectural

- Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.38 in (35 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

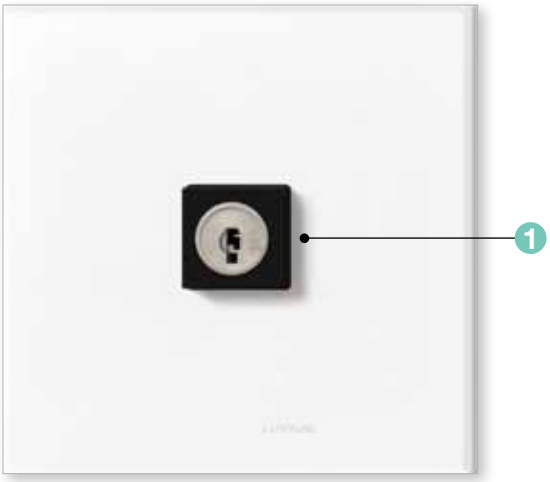
European-style

- Width: 3.38 in (86 mm)
  Height: 3.38 in (86 mm)
  Depth: 1.00 in (25 mm)
  Profile: 0.25 in (6 mm)
- Mounts in a U.K./German 1-gang backbox (P/N 241-683)

Communication and wiring

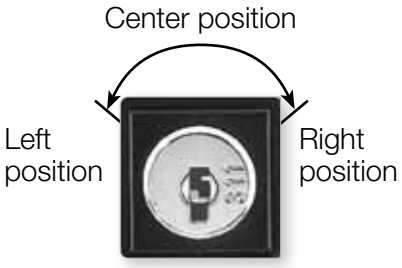
- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- OMX models—counts as one wallstation on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX models—GRAFIK Eye® 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each keyswitch counts as one wallstation

Explanation of features

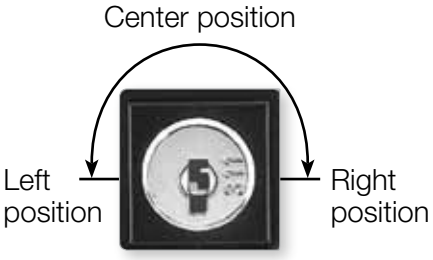


European-style keyswitch

Features	
1 Keyswitch	• Limits access to lighting control system, requires authorized personnel to use a key



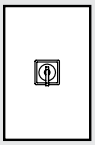
3MOC: 3-position momentary; center position key removal ± 45° travel



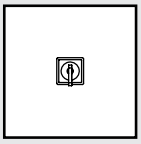
3MAC: 3-position Maintained; center position key removal ± 90° travel

Available models

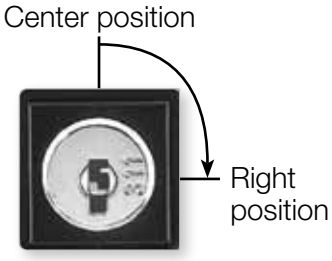
(Architectural keyswitch available in insert and non-insert styles, non-insert style shown)



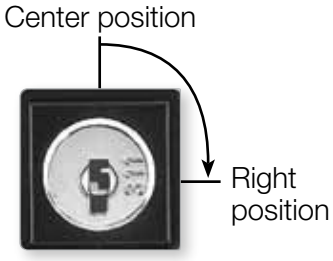
Architectural keyswitch



European-style keyswitch



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



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

Model numbers

OMX Keyswitches

Architectural non-insert style, 3-position momentary, center position key removal	NTOMX-KSN3MOC-**XX**[1]-CPN5313-**E**[1]
Architectural insert style, 3-position momentary, center position key removal	NTOMX-KSI3MOC-**XX**[1]-CPN5313-**E**[1]
Architectural non-insert style, 3-position maintained, center position key removal	NTOMX-KSN3MAC-**XX**[1]-CPN5313-**E**[1]
Architectural insert style, 3-position maintained, center position key removal	NTOMX-KSI3MAC-**XX**[1]-CPN5313-**E**[1]
Architectural non-insert style, 2-position maintained, center position key removal	NTOMX-KSN2MAC-**XX**[1]-CPN5313-**E**[1]
Architectural insert style, 2-position maintained, center position key removal	NTOMX-KSI2MAC-**XX**[1]-CPN5313-**E**[1]
Architectural non-insert style, 2-position maintained, any position key removal	NTOMX-KSN2MAA-**XX**[1]-CPN5313-**E**[1]
Architectural insert style, 2-position maintained, any position key removal	NTOMX-KSI2MAA-**XX**[1]-CPN5313-**E**[1]
European-style, 3-position momentary, center position key removal	EOMX-KS-**XX**[2]-CPN2783-**E**[1]
European-style, 2-position maintained, center position key removal	EOMX-KS-**XX**[2]-CPN3951-**E**[1]

Compatible with LCP128™ and Softswitch128® (XPS) systems.

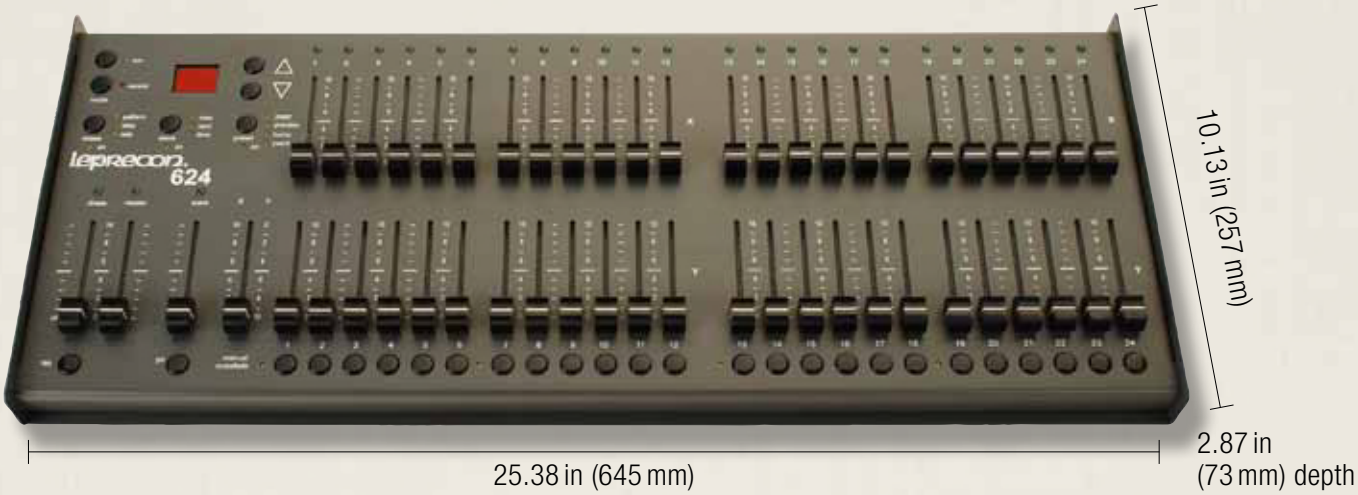
GRX Keyswitches

Architectural non-insert style, 3-position momentary, center position key removal	NTGRX-KSN-**XX**[1]-CPN0731-**E**[1]
Architectural insert style, 3-position momentary, center position key removal	NTGRX-KSI-**XX**[1]-CPN0731-**E**[1]
Architectural non-insert style, 2-position maintained, center position key removal	NTGRX-KSN-CENTURY-**XX**[1]-CPN1115-**E**[1]
Architectural insert style, 2-position maintained, center position key removal	NTGRX-KSI-CENTURY-**XX**[1]-CPN1115-**E**[1]
European-style, 3-position momentary, center position key removal	EGRX-KS-**XX**[2]-CPN2782-**E**[1]

Compatible with the GRAFIK Eye® 4000 system.

XX[1]: Architectural matte and metal color codes, see pg. 306
XX[2]: Architectural matte and metal color codes, see pg. 318

E[1]: Engraving form required with order. If engraving not desired, omit “E”.



Shown above: 24-channel theatrical console (LTC-24)

Features and capacities

- Fully featured and simple to operate these consoles were designed and built for professional use with full-size knobs, quick-action bump buttons and large bright LEDs
- Available with 12 or 24 channels
- Two scene preset mode allows manual control of lighting
- Chase memory provides easy-to-program chases, and makes lights run a continuous pattern
- Cue stack and go button allows playback of a show using one button to advance from scene to scene
- Simultaneous DMX, microplex, and analog output
- Four pages of playback memories provide 48 or 96 locations to store presets

Dimensions and mounting

12-channel

- Width: 15.41 in (391 mm)
  Height: 10.13 in (257 mm)
  Depth: 2.87 in (73 mm)

24-channel

- Width: 25.38 in (645 mm)
  Height: 10.13 in (257 mm)
  Depth: 2.87 in (73 mm)

Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wiring for communication
- Requires 120 V external power supply
- DMX512 input interface (LCP128) or 2Link (12-15 V AC, 1 A) circuit selector panel (GRAFIK Eye® 4000/Quantum®) required to integrate with Lutron® lighting control system
- Does not count toward any device limits on a Lutron system

Related components

DMX512 input interface
(sold separately,
see pg. 482)

Model numbers

Multi-channel theatrical consoles

12-channel	LTC-12
24-channel	LTC-24

Compatible with LCP128™, GRAFIK Eye® 4000, and Quantum® systems.

Shown actual size:
EcoSystem infrared (IR) remote control in White (C-FLRC-WH)

Features and capacities

- Remote control includes on/off, raise/lower and a favorite level button
- Using IR technology, the remote control can adjust lights from minimum to maximum and set and recall a favorite light level
- Aim remote at IR receiver and press desired button
- Available in White (WH)

Dimensions and mounting

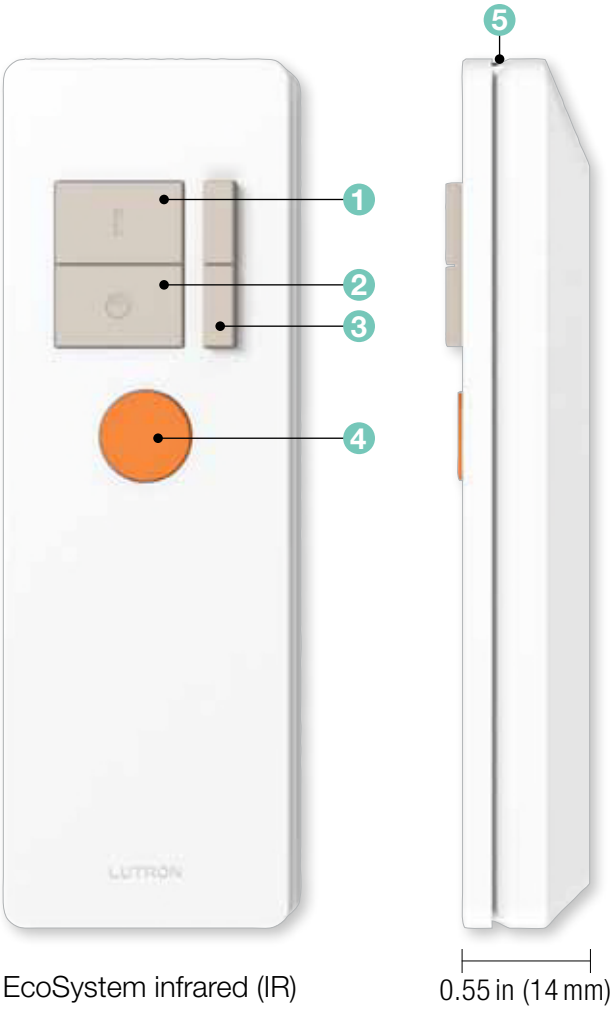
- IR remote control:
  Width: 1.51 in (38 mm)
  Height: 4.61 in (117 mm)
  Depth: 0.55 in (14 mm)
- IR receiver:
  Diameter: 1.18 in (30 mm)
  Depth: 1.25 in (32 mm)
  Profile: 0.69 in (17 mm)
- IR receiver mounts easily to ceiling tiles or fixtures with 0.38 in (10 mm) diameter hole; IR remote is handheld device

Communication and wiring

- IR remote control uses IR signals to communicate with the IR receiver
- IR receiver responds to IR signals from up to 8 ft (2.5 m) away when mounted on a 10 ft (3 m) ceiling
- Total wire length from IR receiver to device must not exceed 100 ft (30 m)
- IR receiver—20 V DC; IR remote control - battery (two AAA batteries included)
- IR receiver is designed to connect directly to an EcoSystem ballast or module (with sensor inputs), QS sensor module, or Energi Savr Node™ module via low-voltage IEC PELV/NEC Class 2 wiring
- IR receiver does not connect directly to QS link
- Each QS link on a Quantum® processor can have up to 100 keypads; each IR receiver counts as one keypad toward the limit when connected to a QS sensor module or Energi Savr Node module
- 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 or EcoSystem ballast/module

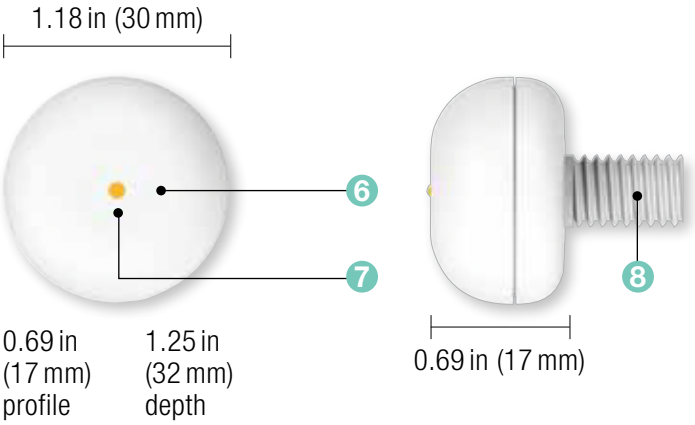
Download specification submittal for IR receiver
Download specification submittal for IR remote control

Explanation of features



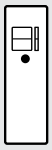
EcoSystem infrared (IR) remote control

Features	
1 On button	• Lights brighten smoothly to full intensity
2 Off button	• Tap once—lights dim smoothly to off
3 Dimming rocker	• Raise/lower lights
4 Favorite level button	• Tap once to recall your favorite light level
5 IR transmitter	• Transmits signal line-of-sight to receiver
6 IR receiver	• Requires line-of-sight from IR remote control
7 Status indicator	• Flashes when IR signal is being received
8 Threaded mounting	• Use 3/8-16 nut (provided) for mounting



Shown actual size: EcoSystem ceiling-mount IR receiver in White (EC-IR-WH)

Available models



EcoSystem infrared (IR) remote control

EcoSystem IR receiver

Model numbers

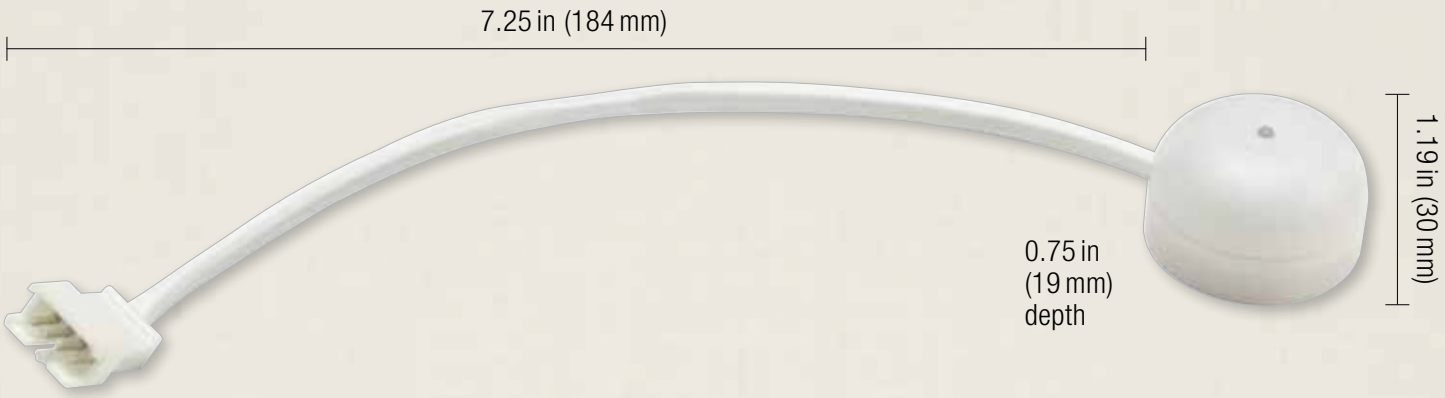
IR remote control

IR remote control	C-FLRC-WH

IR receiver

IR Receiver	EC-IR-WH

Compatible with the Quantum® system.



Features and capacities

- Provides control of shades/drapes and lighting via IR handheld remote controls by providing an access point
- Provides access to 16 scenes (plus off) or 16 areas
- Works with all Lutron handheld IR remote controls
- Allows IR integration via third-party IR remotes
- Integrates shading and lighting devices via a single IR device
- Simple to program and reconfigure as the needs of the space change
- LED provides feedback during programming and troubleshooting
- Available in White (WH)

Dimensions and mounting

- Cord length: 7.25 in (184 mm)
  IR receiver diameter: 1.19 in (30 mm)
  IR receiver depth: 0.75 in (19 mm)
- Wiring harness can easily be configured to exit the side or out the back to accommodate a variety of mounting options
- Self adhesive mounting disc allows for secure mounting to any surface

Communication and wiring

- Operating range: 30 ft (9 m) 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
- Each QS link on the Quantum® processor can have up to 99 QS devices and 100 keypads; each QS IR eye counts as one QS device and one keypad toward the limits

Related components

IR remote control
(available separately, see pg. 292)

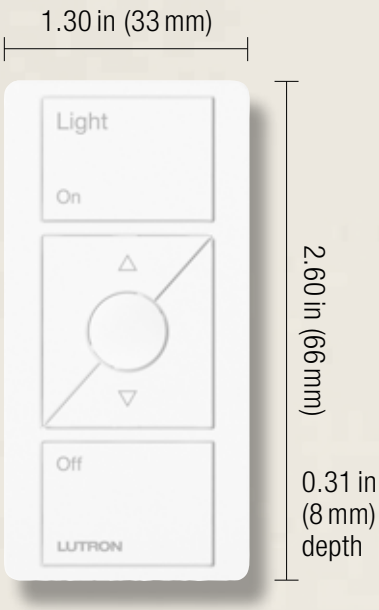
Model numbers

QS IR eye

IR eye	QSE-IR-WH

Compatible with the Quantum® system.

Download specification submittal



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 group
- Simple to install in single-gang or multi-gang applications with Lutron Claro® or international faceplates
- 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 faceplate 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 the HomeWorks® QS repeater, a GRAFIK Eye® QS wireless main unit or QS sensor module
- Models available for operation at 434 MHz, 434 limited channel MHz, 865 MHz, 868 MHz, and 868 limited channel MHz
- RF range is 30 ft (9 m) to compatible RF devices
- Each RF link in a HomeWorks QS system can have up to 99 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
- 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 link on the Quantum processor can have up to 100 keypads; each Pico wireless control counts as one keypad toward the limit

Download specification submittal

Available finishes

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

Gloss finishes

WH
White

WG
White/Gray

IV
Ivory

LA
Light Almond

BL
Black

Matte finishes

TAW
Arctic White

TBL
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. 356 (434 MHz models), or pg. 359 (868 MHz, 868 limited channel MHz, 865 MHz, and 434 limited channel MHz models).

Mounting options

Single pedestal for tabletops

(L-PED1-)

Dual pedestal for tabletops

(L-PED2-)

Triple pedestal for tabletops

(L-PED3-)

Quad pedestal for tabletops

(L-PED4-)

Wall-mount

(no wallbox required)

Pico mounted inside a 1-gang Claro® faceplate in White (CW-1-WH), see pg. 640 (adapter plate required PICO-FP-ADAPT)

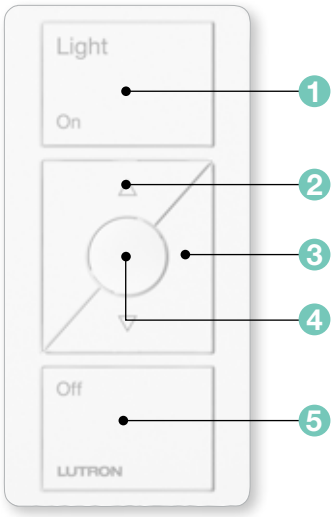
Left: Pico mounted inside a 1-gang International faceplate in Arctic White (PFP-1-B-FAW-M)

Right: Two Picos mounted inside a 2-gang International faceplate in Arctic White (PFP-2-B-FAW-M)

Car visor clip

(PICO-CARVISOR-CL)

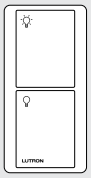
Explanation of features



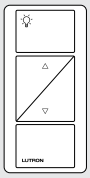
3-button Pico
(with raise/lower)

	Features
1 On/Open	• Press once and lighting device(s) brighten to full intensity or shades move to open
2 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
4 Preset button	• Tap once to recall a favorite lighting or shade level
5 Off/Close	• Tap once and lighting device(s) will dim to off or shades will close

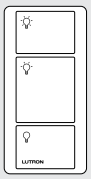
Available models (434 MHz)



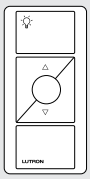
2-button



2-button
with raise/lower



3-button



3-button
with raise/lower

Model numbers (434 MHz)

2-button Pico (434 MHz)

Light icon	PJ-2B-G**XX**[1]-I01
Light text	PJ-2B-G**XX**[1]-T01
Power icon	PJ-2B-G**XX**[1]-I14

3-button Pico (434 MHz)

Light icon	PJ-3B-G**XX**[1]-I01
Light text	PJ-3B-G**XX**[1]-T01

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

Light icon	PJ-2BRL-G**XX**[1]-I01
Light text	PJ-2BRL-G**XX**[1]-T01
Shade icon	PJ-2BRL-G**XX**[1]-I02
Shade text	PJ-2BRL-G**XX**[1]-T02
Drapery icon	PJ-2BRL-G**XX**[1]-I08
Drapery text	PJ-2BRL-G**XX**[1]-T08

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

Light icon	PJ-3BRL-G**XX**[1]-I01
Light text	PJ-3BRL-G**XX**[1]-T01
Shade icon	PJ-3BRL-G**XX**[1]-I02
Shade text	PJ-3BRL-G**XX**[1]-T02
Shade 1 text	PJ-3BRL-G**XX**[1]-T05
Shade 2 text	PJ-3BRL-G**XX**[1]-T06
Screen text	PJ-3BRL-G**XX**[1]-T07
Drape icon	PJ-3BRL-G**XX**[1]-I08
Drape text	PJ-3BRL-G**XX**[1]-T08
Blackout text	PJ-3BRL-G**XX**[1]-T09
Sheer text	PJ-3BRL-G**XX**[1]-T10
Blind text	PJ-3BRL-G**XX**[1]-T13

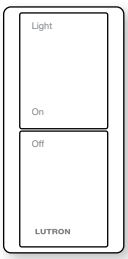
Compatible with the Quantum® and HomeWorks® QS systems.

XX[1]: Available in Gloss finishes: White (WH), White/Gray (WG), Light Almond (LA), Ivory (IV), and Black (BL), see pg. 352

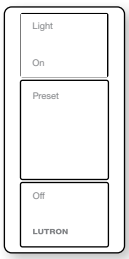
For specific radio frequency by country, refer to the radio frequency chart on pg. 695.

Engraving options and model number engraving codes for 434 MHz models

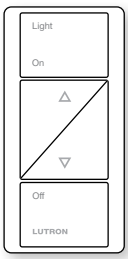
Light — Text



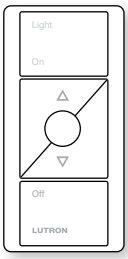
2-button (T01)



3-button (T01)

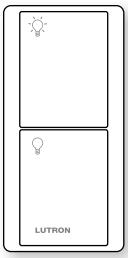


2-button with raise/lower (T01)

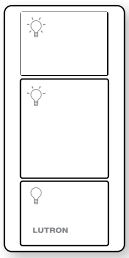


3-button with raise/lower (T01)

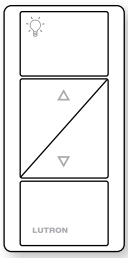
Light and Power — Icons



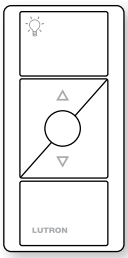
2-button (I01)



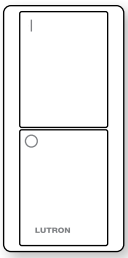
3-button (I01)



2-button with raise/lower (I01)

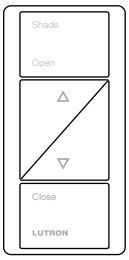


3-button with raise/lower (I01)

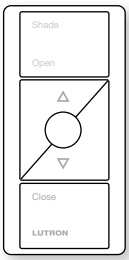


2-button (I14)

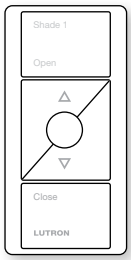
Automated Window Treatments — Text



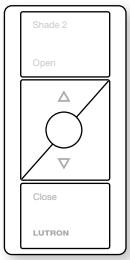
2-button with raise/lower—Shade (T02)



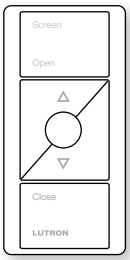
3-button with raise/lower—Shade (T02)



3-button with raise/lower—Shade 1 (T05)

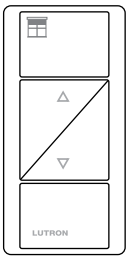


3-button with raise/lower—Shade 2 (T06)

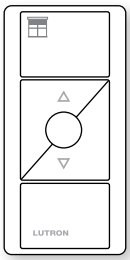


3-button with raise/lower—Screen (T07)

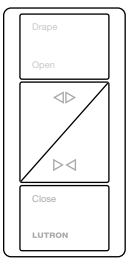
Automated Window Treatments — Icons



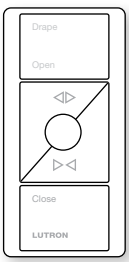
2-button with raise/lower—Shade (I02)



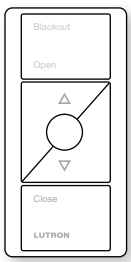
3-button with raise/lower—Shade (I02)



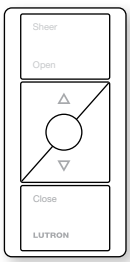
2-button with raise/lower—Drape (T08)



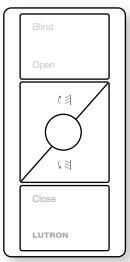
3-button with raise/lower—Drape (T08)



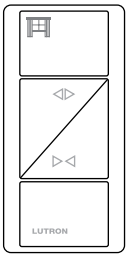
3-button with raise/lower—Blackout (T09)



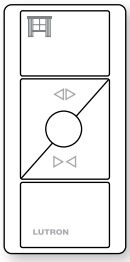
3-button with raise/lower—Sheer (T10)



3-button with raise/lower—Blind (T13)

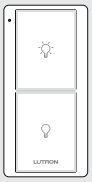


2-button with raise/lower—Drape (I08)



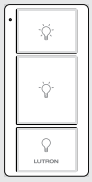
3-button with raise/lower—Drape (I08)

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

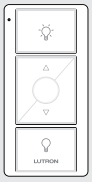


2-button

2-button with raise/lower



3-button



3-button with raise/lower

Model numbers (865 MHz)

2-button Pico (865 MHz)

Light	QSRNP-2-T**XX**[1]-I03
Roller blind	QSRNP-2-T**XX**[1]-I04
Curtain	QSRNP-2-T**XX**[1]-I13

3-button Pico (865 MHz)

Light	QSRNP-3-T**XX**[1]-I03
Roller blind	QSRNP-3-T**XX**[1]-I04
Curtain	QSRNP-3-T**XX**[1]-I13

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

Light	QSRNP-2R-T**XX**[1]-I03
Roller blind	QSRNP-2R-T**XX**[1]-I04
Curtain	QSRNP-2R-T**XX**[1]-I13

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

Light	QSRNP-3R-T**XX**[1]-I03
Roller blind	QSRNP-3R-T**XX**[1]-I04
Curtain	QSRNP-3R-T**XX**[1]-I13

Compatible with the Quantum® and HomeWorks® QS systems.

XX[1]: Available in matte Arctic White (TAW) or matte Black (TBL), see pg. 352

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.

Model numbers (868 MHz)

2-button Pico (868 MHz)

Light	QSRKP-2-T**XX**[1]-I03
Roller blind	QSRKP-2-T**XX**[1]-I04
Curtain	QSRKP-2-T**XX**[1]-I13

3-button Pico (868 MHz)

Light	QSRKP-3-T**XX**[1]-I03
Roller blind	QSRKP-3-T**XX**[1]-I04
Curtain	QSRKP-3-T**XX**[1]-I13

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

Light	QSRKP-2R-T**XX**[1]-I03
Roller blind	QSRKP-2R-T**XX**[1]-I04
Curtain	QSRKP-2R-T**XX**[1]-I13

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

Light	QSRKP-3R-T**XX**[1]-I03
Roller blind	QSRKP-3R-T**XX**[1]-I04
Curtain	QSRKP-3R-T**XX**[1]-I13

Compatible with the Quantum® and HomeWorks® QS systems.

XX[1]: Available in gloss White (WH), gloss Black (BL), matte Arctic White (TAW) or matte Black (TBL), see pg. 352

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.

Model numbers (868 limited channel MHz)

2-button Pico (868 limited channel MHz)

Light	QSRMP-2-T**XX**[1]-I03
Roller blind	QSRMP-2-T**XX**[1]-I04
Curtain	QSRMP-2-T**XX**[1]-I13

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

Light	QSRMP-2R-T**XX**[1]-I03
Roller blind	QSRMP-2R-T**XX**[1]-I04
Curtain	QSRMP-2R-T**XX**[1]-I13

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

Light	QSRMP-3R-T**XX**[1]-I03
Roller blind	QSRMP-3R-T**XX**[1]-I04
Curtain	QSRMP-3R-T**XX**[1]-I13

Compatible with the Quantum and HomeWorks QS systems.

Pedestal and adapter kit (for all Pico models)

Pico tabletop pedestals

Single pedestal	L-PED1-**XX**[1]
Dual pedestal	L-PED2-**XX**[1]
Triple pedestal	L-PED3-**XX**[1]
Quadruple pedestal	L-PED4-**XX**[1]

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

Model numbers (434 limited channel MHz)

2-button Pico (434 limited channel MHz)

Light	QSRQP-2-T**XX**[1]-I03
Roller blind	QSRQP-2-T**XX**[1]-I04
Curtain	QSRQP-2-T**XX**[1]-I13

3-button Pico (434 limited channel MHz)

Light	QSRQP-3-T**XX**[1]-I03
Roller blind	QSRQP-3-T**XX**[1]-I04
Curtain	QSRQP-3-T**XX**[1]-I13

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

Light	QSRQP-2R-T**XX**[1]-I03
Roller blind	QSRQP-2R-T**XX**[1]-I04
Curtain	QSRQP-2R-T**XX**[1]-I13

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

Light	QSRQP-3R-T**XX**[1]-I03
Roller blind	QSRQP-3R-T**XX**[1]-I04
Curtain	QSRQP-3R-T**XX**[1]-I13

Compatible with the Quantum® and HomeWorks® QS systems.

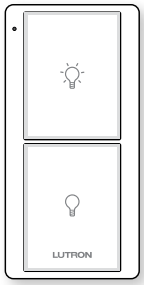
*3-button not available in QSRMP- (868 limited channel MHz) models.

XX[1]: Available in gloss White (WH), gloss Black (BL), matte Arctic White (TAW) or matte Black (TBL), see pg. 352

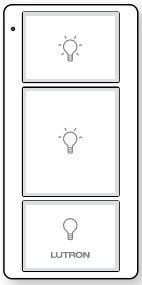
For specific radio frequency by country, refer to the radio frequency chart on pg. 695.

Engraving options and model number engraving codes for 865 MHz, 868 MHz, 868 limited channel MHz, and 434 limited channel MHz models

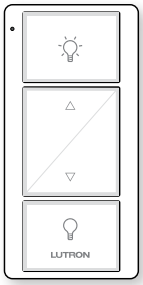
Light — Icons



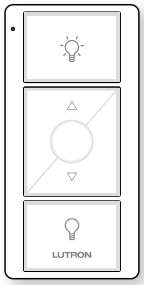
2-button (I03)



3-button (I03)

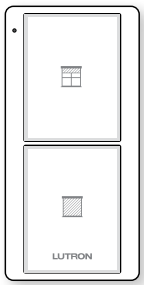


2-button with raise/lower (I03)

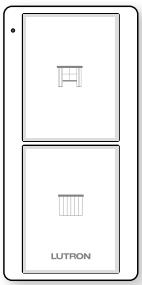


3-button with raise/lower (I03)

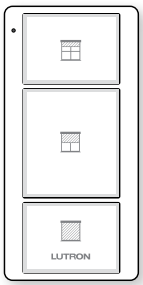
Automated Window Treatments — Icons



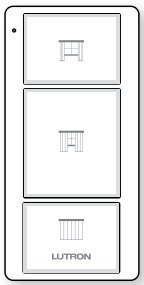
2-button — Roller blind (I04)



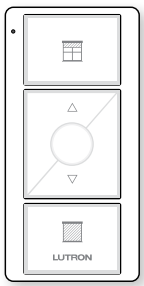
2-button — Curtain (I13)



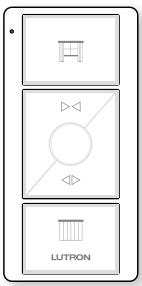
3-button — Roller blind (I04)*



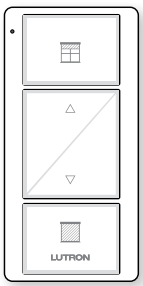
3-button — Curtain (I13)*



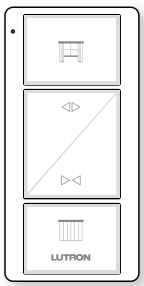
3-button with raise/lower — Roller blind (I04)



3-button with raise/lower — Curtain (I13)

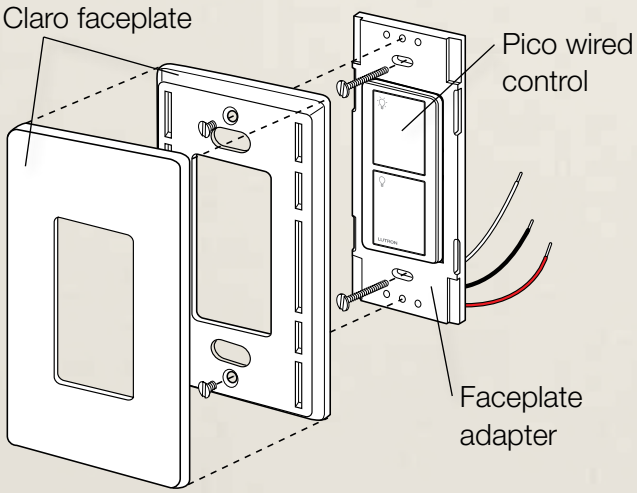


3-button with raise/lower — Roller blind (I04)



3-button with raise/lower — Curtain (I13)

Shown above: Pico wired control in White (PX-2B-GWH-I01) in a 1-gang Claro® faceplate (CW-1-WH) with a Pico faceplate adapter (PICO-FP-ADAPT) (sold separately)



Download specification submittal

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 faceplates 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 100 ft (30 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
- Each QS link on a Quantum® processor 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

Available finishes

Use **BOLD** color code in model number (Example: PX-2B-GWH-I01)

Gloss finishes

(available for most button configurations)

WH
White

WG
White/Gray

IV
Ivory

LA
Light Almond

BL
Black

White/Gray color palette in all models

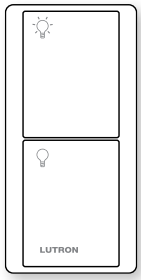
2-button Light (I01) labeling

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

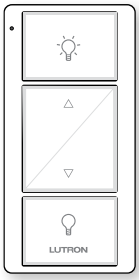
3-button Light (I01) labeling

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

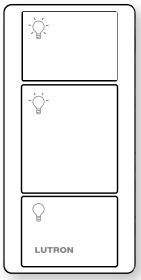
Icon labeling by model



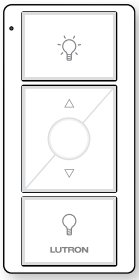
2-button Light (I01) labeling



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

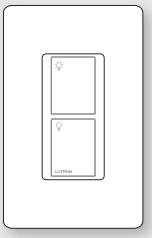


3-button Light (I01) labeling

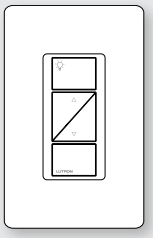


3-button with raise/lower Light (I01) labeling

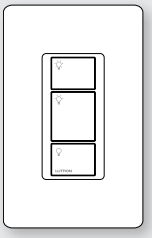
Available models



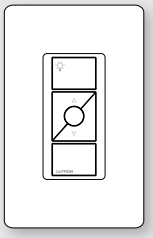
2-button



2-button
with raise/lower



3-button
with preset



3-button with
preset and
raise/lower

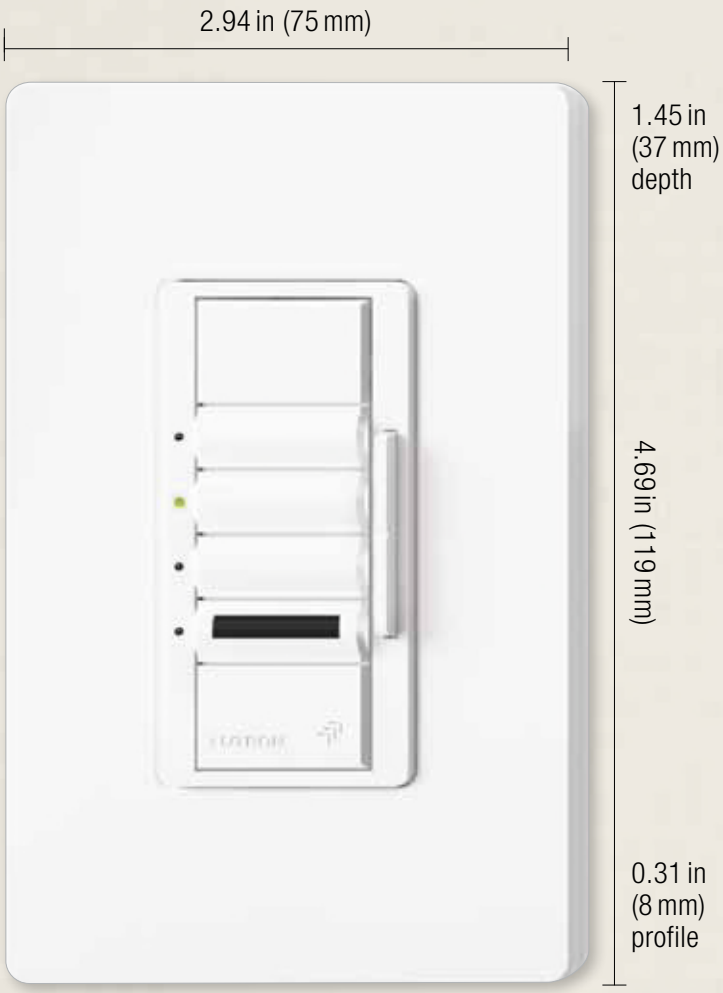
Model numbers

Pico wired control

2-button	PX-2B-G**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**XX**[1]-I01

Compatible with the Quantum® system.

XX[1]: Available in gloss finishes: White/Gray (WG), White (WH), Light Almond (LA), Ivory (IV), and Black (BL), see pg. 361



Shown actual size: 4-button EcoSystem® wallstation in White (CC-4BRL-WH) in a 1-gang Claro® faceplate (CW-1-WH) (Order separately)

Features and capacities

- 4-button control with raise/lower rocker
- Four presets in addition to All On and All Off
- Built-in infrared (IR) receiver
- Multi-color LED to indicate button presses and reception of IR signals
- Engraving on faceplate available
- Coordinating Claro faceplates available separately

Dimensions and mounting

- Width: 2.94 in (75 mm)
  Height: 4.69 in (119 mm)
  Depth: 1.45 in (37 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

Communication and wiring

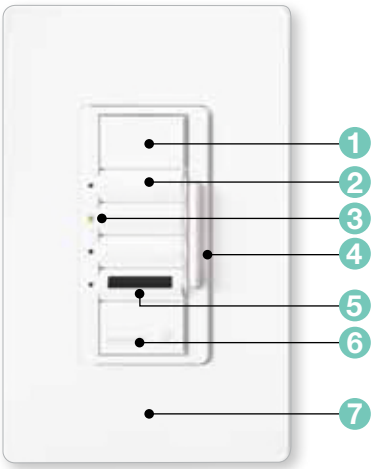
- Total wire length from control to device must not exceed 100 ft (30 m)
- Designed to connect directly to an EcoSystem ballast or module (with sensor inputs), QS sensor module or Energi Savr Node™ module via low-voltage IEC PELV/NEC Class 2 wiring
- Does not connect to QS link directly
- Each QS link on a Quantum® processor 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 remote control
(available separately, see pg. 292)

Download specification submittal
Download engraving sheet for faceplates

Explanation of features



4-button EcoSystem wallstation

Features	
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 10 ft)
6 Off button	• All Off button (programmable)
7 Faceplate	• Lutron Claro® faceplate (sold separately)

Available finishes

Gloss finishes

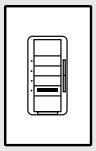
WH
White

LA
Light Almond

IV
Ivory

BL
Black

Available model



4-button

Model numbers

Wallstation

4-button with raise/lower	CC-4BRL-**XX**[1]

Compatible with the Quantum® system.

XX[1]: Available in limited gloss finishes, White (WH), Light Almond (LA), Ivory (IV) and Black (BL)

Faceplate not included. Order separately, see pg. 642.

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 keypad in low-light conditions
- Each keypad includes two contact closures inputs on the back
- For information on engraving, text symbols and backlit buttons/backlit text, see pgs. 667-668
- Coordinating Architectural or Claro® faceplates may be included depending on finish, see pgs.642-643 for further information
- Multi-gang faceplates available; up to 6-gang, see pg. 642-643
- 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 programmed controllers

Dimensions and mounting

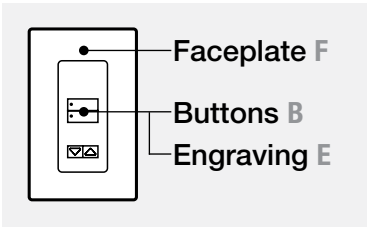
- Width: 2.75 in (70 mm);
  Height: 4.56 in (116 mm);
  Depth: 1.06 in (27 mm);
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication on the QS link
- Each QS link on a Quantum® processor can have up to 99 QS devices and 100 keypads; each seeTouch QS keypad counts as one QS device and one keypad toward the limits
- Uses one power draw unit on the QS link

Download specification submittal
Download high resolution product image
Download engraving sheet for metal faceplates
Download engraving sheet for satin faceplates

Available finishes



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

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

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

LS
Limestone **F**
Gray **B**
White **E**

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

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

PD
Palladium **F**
Gray **B**
White **E**

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

ST
Stone **F**
Gray **B**
White **E**

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

PL
Plum **F**
Taupe **B**
Gray **E**

SG
Sea Glass **F**
Gray **B**
White **E**

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

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

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

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

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

TC
Terracotta **F**
Taupe **B**
Gray **E**

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

HT
Hot **F**
Taupe **B**
Gray **E**

MR
Merlot **F**
Taupe **B**
Gray **E**

MN
Midnight **F, B**
Gray **E**

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

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

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

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

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

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

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

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

TP
Taupe **F, B**
(non-insert only)
Gray **E**

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

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

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

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

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

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

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

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

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

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

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

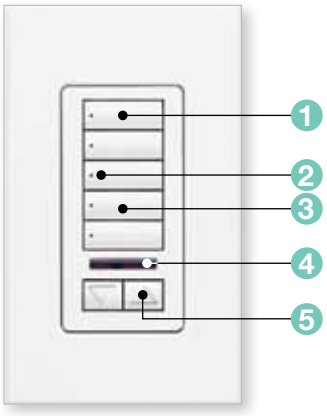
BRA
Brass Anodized Aluminum **F**
Black **B**
White **E**

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

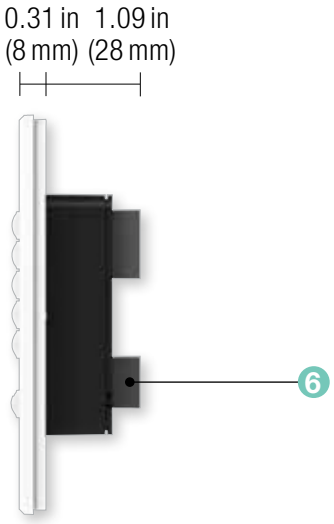
QB
Antique Brass **F**
Black **B**
White **E**

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

Explanation of features



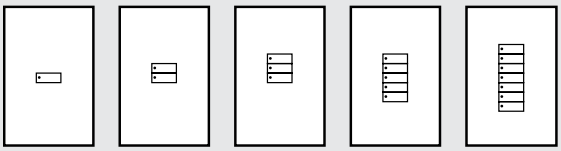
Insert style 5-button seeTouch QS keypad with infrared receiver and raise/lower



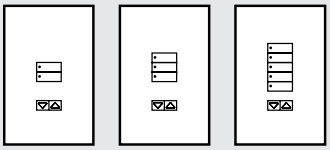
	Features
1 Buttons	• Available with 1-7 scene preset options • Can also provide zone, partitioning, sequencing, or shade control, and other features
2 Status LEDs	• Show which keypad button has been activated
3 Backlit buttons	• Easy to read and use in low-light conditions, can be disabled on a button by button basis
4 Infrared (IR) receiver (optional)	• Offers convenient control of lights/shades from an IR remote control, see pg. 292
5 Raise/lower buttons	• Brightens/dims assigned lighting or raises/lowers assigned shades
6 Dual contact closure inputs	• Dual contact closure inputs (CCI) programmable

Available models

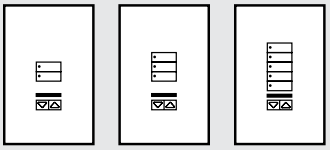
(Available in insert and non-insert styles, non-insert style shown)



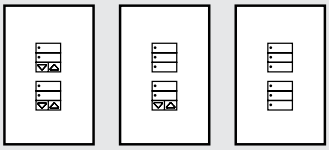
1, 2, 3, 5, 7-button



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-button

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-**XX**[1]-**EEE**[1]
Insert style	QSWS2-3BI-**XX**[2]-**EEE**[1]

5-button

Non-insert style	QSWS2-5BN-**XX**[1]-**EEE**[1]
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 the Quantum® system.

XX[1]: Architectural matte and metal color codes, see pg. 368

XX[2]: Architectural matte, metal and Satin Colors® codes, see pgs. 367-368 (Coordinating faceplates not included with Satin Colors, order separately, see pg. 642

EEE[1]: Engraving codes, see pgs. 667-668

Model numbers

Keypads with raise/lower

2-button with raise/lower

Non-insert style	QSWS2-2BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWS2-2BRLI-**XX**[2]-**EEE**[1]

3-button with raise/lower

Non-insert style	QSWS2-3BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWS2-3BRLI-**XX**[2]-**EEE**[1]

5-button with raise/lower

Non-insert style	QSWS2-5BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWS2-5BRLI-**XX**[2]-**EEE**[1]

Compatible with the Quantum® system.

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-**XX**[1]-**EEE**[1]
Insert style	QSWS2-3BRLIRI-**XX**[2]-**EEE**[1]

5-button with IR receiver and raise/lower

Non-insert style	QSWS2-5BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWS2-5BRLIRI-**XX**[2]-**EEE**[1]

Compatible with the Quantum system.

XX[1]: Architectural matte and metal color codes, see pg. 368

XX[2]: Architectural matte, metal and Satin color codes, see pgs. 367-368

EEE[1]: Engraving codes, see pgs. 667-668 (Faceplates ship with matte and metal finishes, but should be ordered separately for satin finish keypads)

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-button with raise/lower

Non-insert style	QSWS2-1RLDN-**XX**[1]-**EEE**[1]
Insert style	QSWS2-1RLDI-**XX**[2]-**EEE**[1]

Dual 3-button

Non-insert style	QSWS2-3BDN-**XX**[1]-**EEE**[1]
Insert style	QSWS2-3BDI-**XX**[2]-**EEE**[1]

Compatible with the Quantum system.

Faceplate kits

1-button

Non-insert style	QSWS2R-1BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-1BI-**XX**[2]-**EEE**[1]

2-button

Non-insert style	QSWS2R-2BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-2BI-**XX**[2]-**EEE**[1]

3-button

Non-insert style	QSWS2R-3BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-3BI-**XX**[2]-**EEE**[1]

5-button

Non-insert style	QSWS2R-5BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-5BI-**XX**[2]-**EEE**[1]

7-button

Non-insert style	QSWS2R-7BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-7BI-**XX**[2]-**EEE**[1]

Includes faceplate, buttons and insert (when applicable). Compatible with seeTouch QS keypads.

Model numbers

Faceplate kits with raise/lower

2-button with raise/lower

Non-insert style	QSWS2R-2BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-2BRLI-**XX**[2]-**EEE**[1]

3-button with raise/lower

Non-insert style	QSWS2R-3BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-3BRLI-**XX**[2]-**EEE**[1]

5-button with raise/lower

Non-insert style	QSWS2R-5BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-5BRLI-**XX**[2]-**EEE**[1]

Includes faceplate, buttons and insert (when applicable).
Compatible with seeTouch QS keypads.

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

2-button with IR receiver and raise/lower

Non-insert style	QSWS2R-2BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-2BRLIRI-**XX**[2]-**EEE**[1]

3-button with IR receiver and raise/lower

Non-insert style	QSWS2R-3BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-3BRLIRI-**XX**[2]-**EEE**[1]

5-button with IR receiver and raise/lower

Non-insert style	QSWS2R-5BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-5BRLIRI-**XX**[2]-**EEE**[1]

Includes faceplate, 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-2RLDN-**XX**[1]-**EEE**[1]
Insert style	QSWS2R-2RLDI-**XX**[2]-**EEE**[1]

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

Non-insert style	QSWS2R-1RLDN-**XX**[1]-**EEE**[1]
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 faceplate, buttons and insert (when applicable).
Compatible with seeTouch QS keypads.

XX[1]: Architectural matte and metal color codes, see pg. 368
XX[2]: Architectural matte, metal and Satin color codes, see pgs. 367-368
EEE[1]: Engraving codes, see pgs. 667-668

Insert style keypads may ship with architectural or designer style faceplates depending on finish; non-insert style keypads ship with architectural faceplates.

Model numbers

Button kits

1-button

Non-insert style	QSWS2B-1BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-1BI-**XX**[2]-**EEE**[1]

2-button

Non-insert style	QSWS2B-2BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-2BI-**XX**[2]-**EEE**[1]

3-button

Non-insert style	QSWS2B-3BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-3BI-**XX**[2]-**EEE**[1]

5-button

Non-insert style	QSWS2B-5BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-5BI-**XX**[2]-**EEE**[1]

7-button

Non-insert style	QSWS2B-7BN-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-7BI-**XX**[2]-**EEE**[1]

Compatible with seeTouch QS keypads.

Button kits with raise/lower

2-button with raise/lower

Non-insert style	QSWS2B-2BRLN-**XX**[1]-**EEE**[1]
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-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-5BRLI-**XX**[2]-**EEE**[1]

Compatible with seeTouch QS keypads.

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

2-button with IR receiver and raise/lower

Non-insert style	QSWS2B-2BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-2BRLIRI-**XX**[2]-**EEE**[1]

3-button with IR receiver and raise/lower

Non-insert style	QSWS2B-3BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-3BRLIRI-**XX**[2]-**EEE**[1]

5-button with IR receiver and raise/lower

Non-insert style	QSWS2B-5BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-5BRLIRI-**XX**[2]-**EEE**[1]

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-**XX**[1]-**EEE**[1]
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-**XX**[2]-**EEE**[1]

Dual 3-button

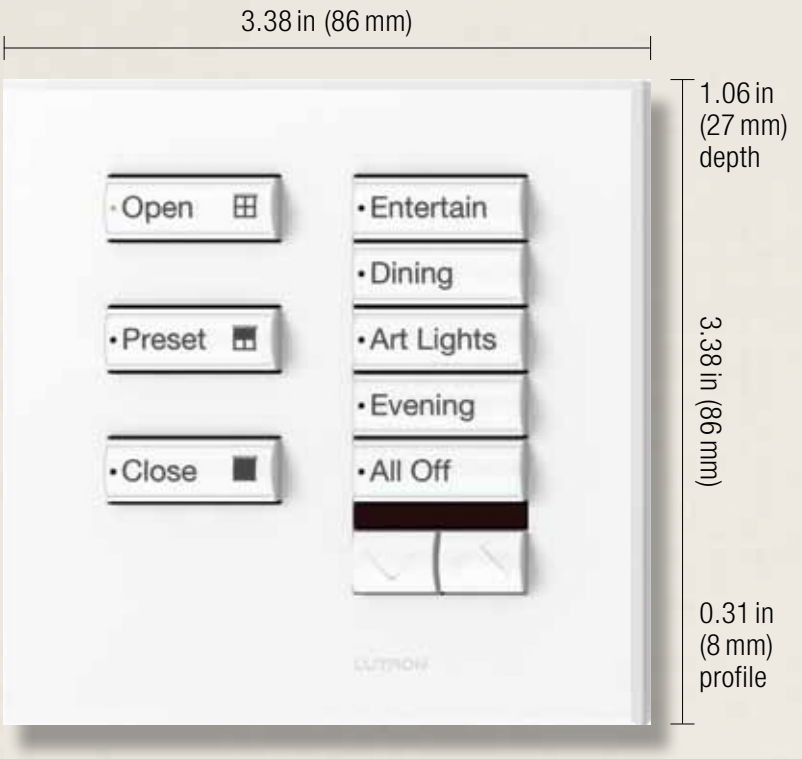
Non-insert style	QSWS2B-3BDN-**XX**[1]-**EEE**[1]
Insert style	QSWS2B-3BDI-**XX**[2]-**EEE**[1]

Compatible with seeTouch QS keypads.

XX[1]: Limited architectural matte color codes, see pg. 368 for corresponding button colors

XX[2]: Limited gloss, architectural matte, and Satin Colors® finishes, see pgs. 367-368 for corresponding button colors

EEE[1]: Engraving codes, see pgs. 667-668



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

Features and capacities

- Available with 2-10 buttons in insert and non-insert styles
- Standard models available in 10-button configurations and 12 color options; custom models available
- Large rounded buttons are easy to use
- Each keypad includes two built-in contact closures 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. 667-668
- Buttons can be used for scene recall, zone toggle, zone lockout, fine tuning, panic, sequencing, partitioning, and shade control
- Coordinating faceplate included
- Models available with group control settings for a single shade or multiple shades

Dimensions and mounting

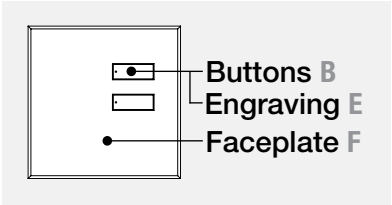
- Product dimensions:
  Width: 3.38 in (86 mm)
  Height: 3.38 in (86 mm)
  Depth: 1.06 in (27 mm)
  Profile: 0.31 in (8 mm)
- Typical backbox dimensions:
  Width: 3.00 in (75 mm)
  Height: 3.00 in (75 mm)
  Depth: 1.40 in (35.6 mm)
- May be mounted in a 1.40 in round backbox, used in Europe

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication on the QS link
- Each QS link on a Quantum® processor can have up to 99 QS devices and 100 keypads; each International seeTouch QS wallstation counts as one QS device and one keypad toward the limits
- Uses one power draw unit on the QS link

Download specification submittal
Download high resolution product image
Download engraving sheet for faceplates

Available finishes



Use **BOLD** color code in model number (Example: QWS2B-2BN-**AW**)

Matte finishes

AW
Arctic White
F, B
Gray E

Metallic finishes

AR
Argentum F
Black B
White E

MC
Mica F
Black B
White E

Metal finishes

SN
Satin Nickel F
Black B
White E

BN
Bright Nickel F
Black B
White E

SB
Satin Brass F
Black B
White E

BB
Bright Brass F
Black B
White E

SC
Satin Chrome F
Black B
White E

BC
Bright Chrome F
Black B
White E

QZ
Antique Bronze F
Black B
White E

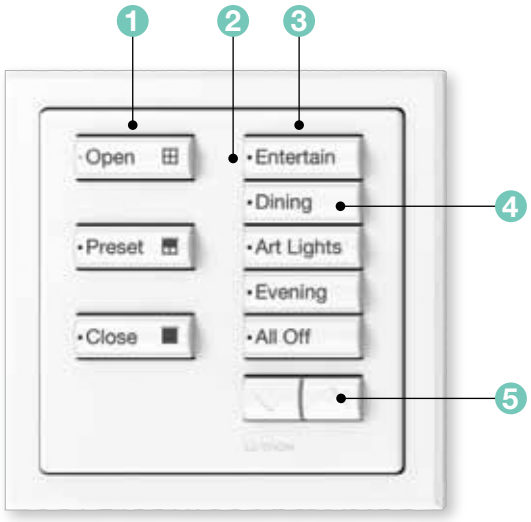
QB
Antique Brass F
Black B
White E

AU
Gold Plated F
Black B
White E

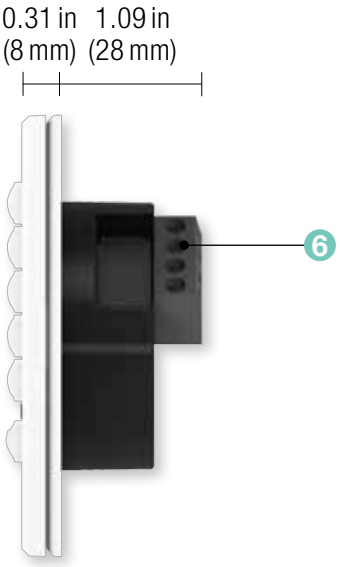
Bold color code indicates faceplate color. Models include button kit in coordinating colors as shown.

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

Explanation of features



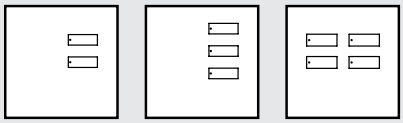
Insert style 8-button International seeTouch QS wallstation with raise/lower



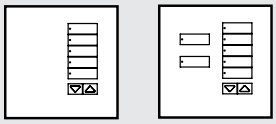
	Features
1 Preset buttons for shades*	• Enable user to control one shade or group of shades
2 Status LEDs	• Show which keypad button has been activated
3 Preset buttons for lights*	• Enable user to control a light or group of lights
4 Backlit buttons	• Easy to read and use in low-light conditions; can 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

Available models

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



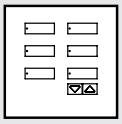
2, 3, 4-button



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-**XX**[1]-**EEE**[1]
Insert style	QSWE-2BI-**XX**[1]-**EEE**[1]

3-button

Non-insert style	QSWE-3BN-**XX**[1]-**EEE**[1]
Insert style	QSWE-3BI-**XX**[1]-**EEE**[1]

4-button

Non-insert style	QSWE-4BN-**XX**[1]-**EEE**[1]
Insert style	QSWE-4BI-**XX**[1]-**EEE**[1]

Compatible with the Quantum® system.

Wallstations with raise/lower

5-button with raise/lower

Non-insert style	QSWE-5BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWE-5BRLI-**XX**[1]-**EEE**[1]

7-Button with raise/lower

Non-insert style	QSWE-7BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWE-7BRLI-**XX**[1]-**EEE**[1]

8-button with raise/lower

Non-insert style	QSWE-8BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWE-8BRLI-**XX**[1]-**EEE**[1]

10-button with raise/lower

Non-insert style	QSWE-10BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWE-10BRLI-**XX**[1]-**EEE**[1]

Compatible with the Quantum system.

XX[1]: Matte, metallic and metal color codes, see pg. 375
EEE[1]: Engraving codes, see pgs. 667-668

Model numbers

Wallstations with infrared (IR) receiver and raise/lower

5-button with IR receiver and raise/lower

Non-insert style	QSWE-5BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWE-5BRLIRI-**XX**[1]-**EEE**[1]

8-button with IR receiver and raise/lower

Non-insert style	QSWE-8BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWE-8BRLIRI-**XX**[1]-**EEE**[1]

Compatible with the Quantum® system.

Dual wallstations with raise/lower

Dual wallstation with 3-button and raise/lower

Non-insert style	QSWE-6BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWE-6BRLI-**XX**[1]-**EEE**[1]

Compatible with the Quantum system.

Faceplate kits

2-button

Non-insert style	QSWER-2BN-**XX**[1]-**EEE**[1]
Insert style	QSWER-2BI-**XX**[1]-**EEE**[1]

3-button

Non-insert style	QSWER-3BN-**XX**[1]-**EEE**[1]
Insert style	QSWER-3BI-**XX**[1]-**EEE**[1]

4-button

Non-insert style	QSWER-4BN-**XX**[1]-**EEE**[1]
Insert style	QSWER-4BI-**XX**[1]-**EEE**[1]

Includes faceplate, buttons and insert (when applicable).

Compatible with International seeTouch QS wallstations.

XX[1]: Matte, metallic and metal color codes, see pg. 375

EEE[1]: Engraving codes, see pgs. 667-668

Faceplate kits with raise/lower

5-button with raise/lower

Non-insert style	QSWER-5BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWER-5BRLI-**XX**[1]-**EEE**[1]

7-button with raise/lower

Non-insert style	QSWER-7BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWER-7BRLI-**XX**[1]-**EEE**[1]

8-button with raise/lower

Non-insert style	QSWER-8BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWER-8BRLI-**XX**[1]-**EEE**[1]

10-button with raise/lower

Non-insert style	QSWER-10BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWER-10BRLI-**XX**[1]-**EEE**[1]

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-**XX**[1]-**EEE**[1]
Insert style	QSWER-5BRLIRI-**XX**[1]-**EEE**[1]

8-button with IR receiver and raise/lower

Non-insert style	QSWER-8BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWER-8BRLIRI-**XX**[1]-**EEE**[1]

Includes faceplate, buttons and insert (when applicable).

Compatible with International seeTouch QS wallstations.

IR faceplate kits require IR keypads with IR functionality.

Dual faceplate kits

Dual 3-button with raise/lower

Non-insert style	QSWER-6BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWER-6BRLI-**XX**[1]-**EEE**[1]

Includes faceplate, buttons and insert (when applicable).

Compatible with International seeTouch QS wallstations.

Model numbers

Button kits

2-button

Non-insert style	QSWEB-2BN-**XX**[1]-**EEE**[1]
Insert style	QSWEB-2BI-**XX**[1]-**EEE**[1]

3-button

Non-insert style	QSWEB-3BN-**XX**[1]-**EEE**[1]
Insert style	QSWEB-3BI-**XX**[1]-**EEE**[1]

4-button

Non-insert style	QSWEB-4BN-**XX**[1]-**EEE**[1]
Insert style	QSWEB-4BI-**XX**[1]-**EEE**[1]

Compatible with International seeTouch QS wallstations.

Button kits with raise/lower

5-button with raise/lower

Non-insert style	QSWEB-5BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWEB-5BRLI-**XX**[1]-**EEE**[1]

7-button with raise/lower

Non-insert style	QSWEB-7BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWEB-7BRLI-**XX**[1]-**EEE**[1]

8-button with raise/lower

Non-insert style	QSWEB-8BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWEB-8BRLI-**XX**[1]-**EEE**[1]

10-button with raise/lower

Non-insert style	QSWEB-10BRLN-**XX**[1]-**EEE**[1]
Insert style	QSWEB-10BRLI-**XX**[1]-**EEE**[1]

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-**XX**[1]-**EEE**[1]
Insert style	QSWEB-5BRLIRI-**XX**[1]-**EEE**[1]

8-button with IR receiver and raise/lower

Non-insert style	QSWEB-8BRLIRN-**XX**[1]-**EEE**[1]
Insert style	QSWEB-8BRLIRI-**XX**[1]-**EEE**[1]

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-**XX**[1]-**EEE**[1]
Insert style	QSWEB-6BRLI-**XX**[1]-**EEE**[1]

Compatible with International seeTouch QS wallstations.

XX[1]: Available in Arctic White (AW) and Black (BL), see pg. 375

EEE[1]: Engraving codes, see pgs. 667-668

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

Features and capacities

- Provides key-only access to QS lighting controls, ideal for public spaces
- Supports the following functionalities:
  - Allows fine-tuning (raise/lower level) of a zone or group of zones
  - Enables/disables time clock, occupancy sensors, and daylight sensors
  - Starts/stops after hours
  - Opens/closes a shade or group of shades
  - Start and stop automatic sequencing
  - Zone control
- Coordinating faceplate included

Dimensions and mounting

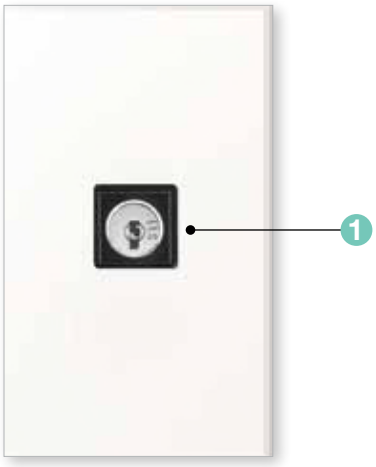
- Width: 2.72 in (69 mm)
  Height: 4.57 in (116 mm)
  Depth: 1.77 in (45 mm)
  Profile: 0.28 in (7 mm)
- Mounts in a standard 1-gang U.S. backbox

Communication and mounting

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication via the QS link
- Each QS link on a Quantum® processor can have up to 99 QS devices and 100 keypads; each QS keyswitch counts as one QS device and one keypad toward the limits
- Uses one power draw unit on the QS link

Download specification submittal
Download engraving sheet for faceplates

Explanation of features



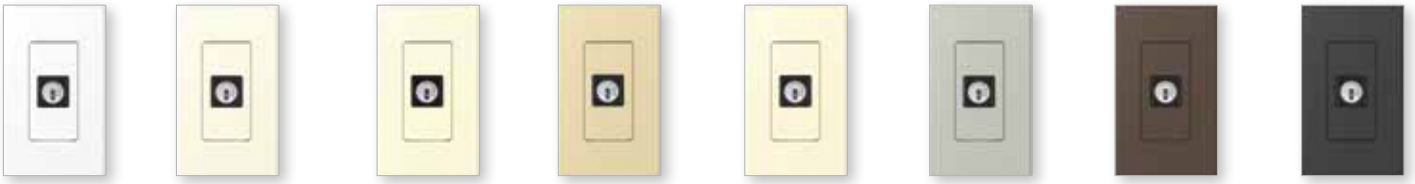
QS keyswitch

	Features
1 Keyswitch	• Provides key-only access to systems

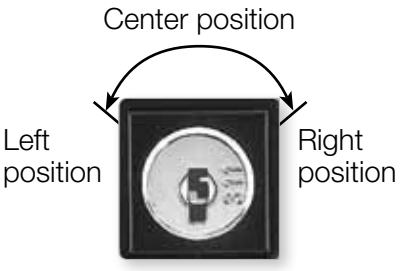
Available finishes

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

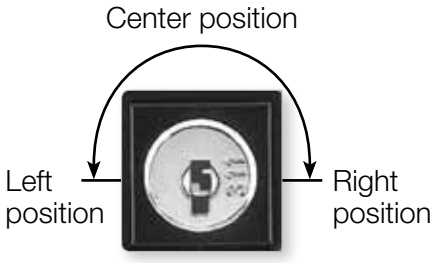
Architectural matte finishes



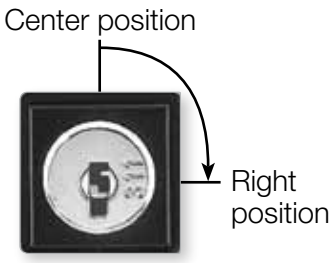
WH White
LA Light Almond
AL Almond
IV Ivory
BE Beige
GR Gray
BR Brown
BL Black



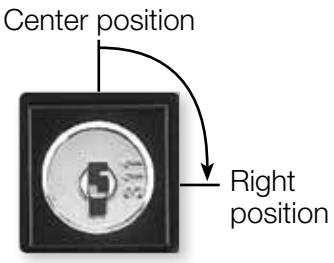
3MOC: 3-position momentary;
center position key removal
± 45° travel



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



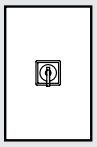
2MAC: 2-position Maintained;
center position key removal
± 90° travel



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

Available models

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



Keyswitch

Model numbers

Keyswitch

3-position momentary; center position key removal	
Non-insert style	QSWS2-KS3NMOC-**XX**[1]-**E**[1]
Insert style	QSWS2-KS3IMOC-**XX**[1]-**E**[1]

3-position maintained; center position key removal	
Non-insert style	QSWS2-KS3NMAC-**XX**[1]-**E**[1]
Insert style	QSWS2-KS3IMAC-**XX**[1]-**E**[1]

2-position maintained; center position key removal	
Non-insert style	QSWS2-KS2NMAC-**XX**[1]-**E**[1]
Insert style	QSWS2-KS2IMAC-**XX**[1]-**E**[1]

2-position maintained; any position key removal	
Non-insert style	QSWS2-KS2NMAA-**XX**[1]-**E**[1]
Insert style	QSWS2-KS2IMAA-**XX**[1]-**E**[1]

Compatible with the Quantum® system.

XX[1]: Architectural matte color codes, see pg. 382

E[1]: Engraving form required with order. If engraving not desired, omit "E".

HomeWorks® QS designer-style seeTouch® wired keypad

Shown above: HomeWorks QS designer-style seeTouch wired 5-button keypad with raise/lower in White (HQWD-W5BRL-WH) and 1-gang Claro® faceplate in White (CW-1-WH)

Features and capacities

- Available with 1-7 buttons
- Models available in 14 button configurations with options for raise/lower and infrared receiver
- Large, backlit button are easy to see
- Backlit buttons make it easy to find and operate the keypad in low-light conditions
- Each keypad includes two contact closure inputs on the back
- Functionality determined in the field and programmed via HomeWorks QS software
- Operates at 24 V DC
- Coordinating Claro®, Satin Colors® and Stainless Steel faceplates available separately, see pg. 640
- Multi-gang faceplates also available; up to 6-gang, see pgs. 642-643
- For information on engraving, text symbols and backlit buttons/backlit texts, see pgs. 667-668

Dimensions and mounting

- Width: 2.94 in (75 mm)
  Height: 4.69 in (119 mm)
  Depth: 1.31 in (33 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

Communication and wiring

- Communicates via low-voltage IEC PELV/NEC Class 2 wire to HomeWorks QS processor on the QS link
- Each QS link on a HomeWorks QS processor can have up to 99 devices; the HomeWorks QS seeTouch keypad counts as one device toward the limit
- Uses one power draw unit on the QS link

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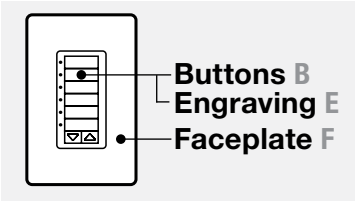
Download engraving sheet for button kits

Available finishes



Use **BOLD** color code in model number (Example: HQWD-W2RLD-**WH**)

Gloss finishes*

WH
White F, B
Gray E

LA
Light Almond F, B
Gray E

AL
Almond F, B
Gray E

IV
Ivory F, B
Gray E

GR
Gray F, B
White E

BR
Brown F, B
White E

BL
Black F, B
White E

Satin finishes*

SW
Snow F, B
Gray E

LS
Limestone F
Gray B
White E

BI
Biscuit F, B
Gray E

ES
Eggshell F, B
Gray E

PD
Palladium F
Gray B
White E

TP
Taupe F, B
Gray E

ST
Stone F
Gray B
White E

BG
Bluestone F
Gray B
White E

PL
Plum F
Taupe B
Gray E

TQ
Turquoise F
Gray B
White E

GS
Goldstone F
Ivory B
Gray E

DS
Desert Stone F
Taupe B
Gray E

GB
Greenbriar F
Gray B
White E

MS
Mocha Stone F
Taupe B
Gray E

TC
Terracotta F
Taupe B
Gray E

SI
Sienna F
Brown B
White E

HT
Hot F
Taupe B
Gray E

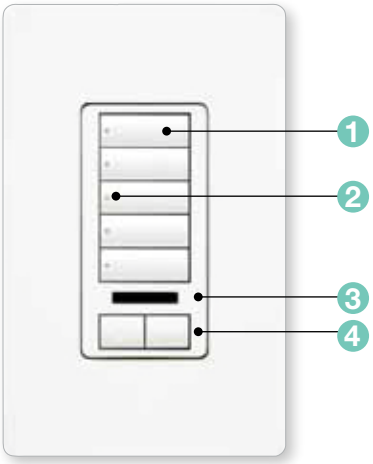
MR
Merlot F
Taupe B
Gray E

MN
Midnight F, B
White E

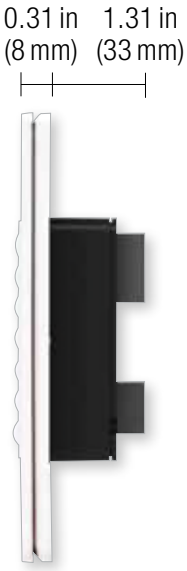
SS
Stainless Steel F
Black B (default)
White E

Coordinating faceplates only available separately. For faceplate information, see pg. 642.

Explanation of features

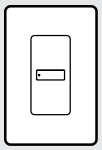


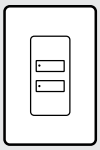
HomeWorks QS designer-style seeTouch wired keypad

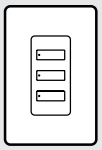


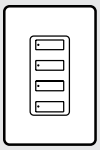
	Features
1 Programmable buttons	• Available with 1-7 buttons • Buttons provide control of lights, shades and HVAC
2 Status LEDs	• Show which keypad buttons have been activated
3 Infrared (IR) receiver	• Accepts infrared (IR) commands from a Lutron® IR remote or third-party universal remote
4 Raise/lower buttons	• Lights increase or decrease in intensity or shades/draperies move towards the open/close limit

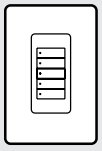
Available models

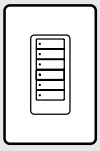

1-button

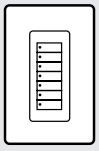

2-button

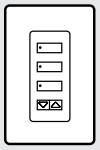

3-button

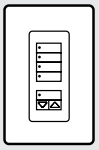

4-button


5-button

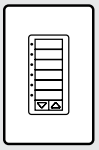

6-button


7-button

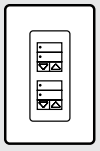

3-button spaced with raise/lower

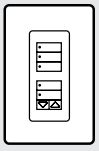

4-scene with raise/lower

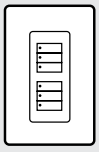

5-button with raise/lower


6-button with raise/lower


5-button with raise/lower and infrared receiver


Dual group with raise/lower


Dual group with raise/lower dual


Dual group

Model numbers

Keypads

1-button	HQWD-W1B-**XX**[1]
2-button	HQWD-W2BS-**XX**[1]
3-button	HQWD-W3BS-**XX**[1]
4-button	HQWD-W4BS-**XX**[1]
5-button	HQWD-W5B-**XX**[1]
6-button	HQWD-W6B-**XX**[1]
7-button	HQWD-W7B-**XX**[1]

Compatible with HomeWorks QS system.

Keypads with raise/lower

3-button with raise/lower	HQWD-W3BSRL-**XX**[1]
4-scene with raise/lower	HQWD-W4S-**XX**[1]
5-button with raise/lower	HQWD-W5BRL-**XX**[1]
6-button with raise/lower	HQWD-W6BRL-**XX**[1]

Compatible with HomeWorks QS system.

Keypads with raise/lower and infrared (IR) receiver

5-button with raise/lower and IR receiver	HQWD-W5BIR-**XX**[1]

Compatible with HomeWorks QS system.

Dual group keypads

Dual group with raise/lower	HQWD-W2RLD-**XX**[1]
Dual group with dual raise/lower	HQWD-W1RLD-**XX**[1]
Dual group	HQWD-W3BD-**XX**[1]

Compatible with HomeWorks QS system.

Engraved replacement kits

1-button	RKD-W1B-**XX**[1]-**E**[1]
2-button	RKD-W2BS-**XX**[1]-**E**[1]
3-button	RKD-W3BS-**XX**[1]-**E**[1]
4-button	RKD-W4BS-**XX**[1]-**E**[1]
5-button	RKD-W5B-**XX**[1]-**E**[1]
6-button	RKD-W6B-**XX**[1]-**E**[1]
7-button	RKD-W7B-**XX**[1]-**E**[1]
3-button with raise/lower	RKD-W3BSRL-**XX**[1]-**E**[1]
4-scene with raise/lower	RKD-W4S-**XX**[1]-**E**[1]
5-button with raise/lower	RKD-W5BRL-**XX**[1]-**E**[1]
5-button with raise/lower and IR receiver	RKD-W5BIR-**XX**[1]-**E**[1]
6-button with raise/lower	RKD-W6BRL-**XX**[1]-**E**[1]
Dual group with raise/lower	RKD-W2RLD-**XX**[1]-**E**[1]
Dual group with dual raise/lower	RKD-W1RLD-**XX**[1]-**E**[1]
Dual group	RKD-W3BD-**XX**[1]-**E**[1]

Includes buttons and insert.

IR replacement kit requires IR keypad with IR functionality.

Compatible with HomeWorks QS designer-style seeTouch wired keypads.

XX[1]: Gloss and Satin Color® codes, see pg. 385

E[1]: Engraving form required with order. If engraving not desired, omit "E".

HomeWorks® QS designer-style seeTouch® wireless keypad

Shown actual size: HomeWorks QS designer-style seeTouch wireless 5-button with raise/lower keypad n White (HQRD-W5BRL-WH) and 1-gang Claro® faceplate in White (CW-1-WH)

Features and capacities

- Available with 1-7 buttons
- Models available in 14 button configurations with options for raise/lower
- Large, backlit button are easy to use
- Backlit buttons or text make it easy to find and operate the keypad in low-light conditions
- Each keypad includes two contact closure inputs on the back
- Functionality determined in the field and programmed via HomeWorks QS software
- Operates at 120 V
- Coordinating Claro®, Satin Colors® and Stainless Steel faceplates available separately, see pg. 640
- Multi-gang faceplates also available; up to 6-gang, see pgs. 642-643
- For information on engraving, text symbols and backlit buttons/backlit text, see pgs. 667-668

Dimensions and mounting

- Width: 2.94 in (75 mm)
  Height: 4.69 in (119 mm)
  Depth: 1.40 in (36 mm)
  Profile: 0.31 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
- Operates at 434 MHz
- Requires a neutral wire
- Must be located within 30 ft (9 m) of a hybrid repeater
- HomeWorks QS system can have up to 99 devices per RF link

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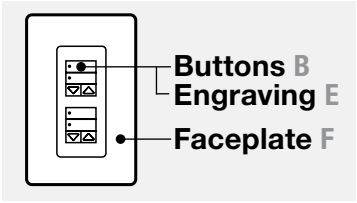
Download engraving sheet for button kits

Available finishes



Use **BOLD** color code in model number (Example: HQRD-W2RLD-3P-**WH**)

Gloss finishes*

WH
White F, B
Gray E

LA
Light Almond F, B
Gray E

AL
Almond F, B
Gray E

IV
Ivory F, B
Gray E

GR
Gray F, B
White E

BR
Brown F, B
White E

BL
Black F, B
White E

Satin finishes*

SW
Snow F, B
Gray E

LS
Limestone F
Gray B
White E

BI
Biscuit F, B
Gray E

ES
Eggshell F, B
Gray E

PD
Palladium F
Gray B
White E

TP
Taupe F, B
Gray E

ST
Stone F
Gray B
White E

BG
Bluestone F
Gray B
White E

PL
Plum F
Taupe B
Gray E

TQ
Turquoise F
Gray B
White E

GS
Goldstone F
Ivory B
Gray E

DS
Desert Stone F
Taupe B
Gray E

GB
Greenbriar F
Gray B
White E

MS
Mocha Stone F
Taupe B
Gray E

TC
Terracotta F
Taupe B
Gray E

SI
Sienna F
Brown B
White E

HT
Hot F
Taupe B
Gray E

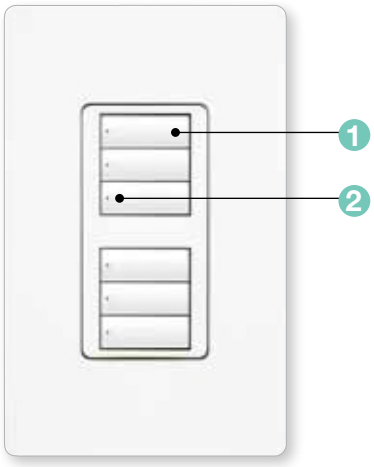
MR
Merlot F
Taupe B
Gray E

MN
Midnight F, B
White E

SS
Stainless Steel F
Black B (default)
White E

Coordinating faceplates only available separately. For faceplate information, see pg. 642.

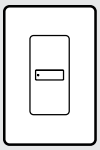
Explanation of features

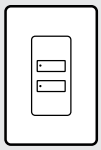


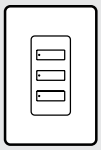
HomeWorks QS designer-style seeTouch wireless keypad

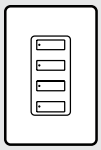
	Features
1 Programmable buttons	• Available with 1-7 buttons • Buttons provide control of lights, shades and HVAC
2 Status LEDs	• Show which keypad buttons have been activated

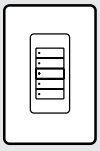
Available models

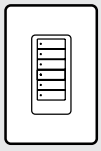

1-button

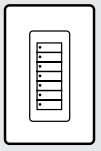

2-button


3-button

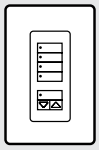

4-button


5-button

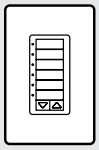

6-button

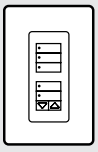

7-button

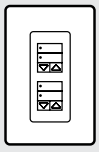

3-button with raise/lower

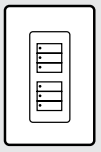

4-scene with raise/lower


5-button with raise/lower


6-button with raise/lower


Dual group with raise/lower


Dual group with dual raise/lower


Dual group

Model numbers

Keypads

1-button	HQRD-W1B-**XX**[1]
2-button	HQRD-W2BS-**XX**[1]
3-button	HQRD-W3BS-**XX**[1]
4-button	HQRD-W4BS-**XX**[1]
5-button	HQRD-W5B-**XX**[1]
6-button	HQRD-W6B-**XX**[1]
7-button	HQRD-W7B-**XX**[1]

Compatible with HomeWorks QS system.

Keypads with raise/lower

3-button with raise/lower	HQRD-W3BSRL-**XX**[1]
4-scene with raise/lower	HQRD-W4S-**XX**[1]
5-button with raise/lower	HQRD-W5BRL-**XX**[1]
6-button with raise/lower	HQRD-W6BRL-**XX**[1]

Compatible with HomeWorks QS system.

Dual group keypads

Dual group with raise/lower	HQRD-W1RLD-**XX**[1]
Dual group with dual raise/lower	HQRD-W2RLD-**XX**[1]
Dual group	HQRD-W3BD-**XX**[1]

Compatible with HomeWorks QS system.

Engraved replacement kit

1-button	RKD-W1B-**XX**[1]-**E**[1]
2-button	RKD-W2BS-**XX**[1]-**E**[1]
3-button	RKD-W3BS-**XX**[1]-**E**[1]
4-button	RKD-W4BS-**XX**[1]-**E**[1]
5-button	RKD-W5B-**XX**[1]-**E**[1]
6-button	RKD-W6B-**XX**[1]-**E**[1]
7-button	RKD-W7B-**XX**[1]-**E**[1]
3-button with raise/lower	RKD-W3BSRL-**XX**[1]-**E**[1]
4-scene with raise/lower	RKD-W4S-**XX**[1]-**E**[1]
5-button with raise/lower	RKD-W5BRL-**XX**[1]-**E**[1]
6-button with raise/lower	RKD-W6BRL-**XX**[1]-**E**[1]
Dual group with raise/lower	RKD-W1RLD-**XX**[1]-**E**[1]
Dual group with dual raise/lower	RKD-W2RLD-**XX**[1]-**E**[1]
Dual group	RKD-W3BD-**XX**[1]-**E**[1]

Includes buttons and insert.

Compatible with HomeWorks QS designer-style seeTouch keypads.

XX[1]: Gloss and Satin Color® codes, see pg. 390

E[1]: Engraving form required with order. If engraving not desired, omit "E".

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.

HomeWorks® QS Architectural-style seeTouch® keypad

Shown above: Non-insert HomeWorks QS Architectural-style seeTouch 5-button keypad with raise/lower in White (HQWA-W5BRLN-WH)

Features and capacities

- Available with 1-7 buttons in insert and non-insert style
- Models available in 15 button configurations with options for raise/lower and infrared receiver
- Large, backlit buttons are easy to use
- Backlit buttons or text make it easy to find and operate the keypad in low light conditions
- Each keypad includes two contact closure inputs on the back
- Functionality determined in the field and programmed via HomeWrks QS software
- Operates at 24 V DC
- For information on engraving, text symbols and backlit buttons/backlit text, see pgs. 667-668
- Multi-gang faceplates available

Dimensions and mounting

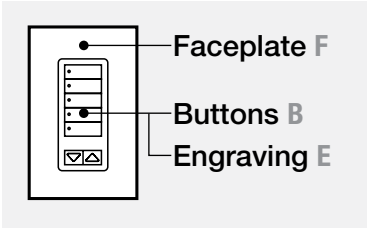
- Width: 2.75 in (70 mm)
  Height: 4.56 in (116 mm)
  Depth: 1.06 in (28 mm)
  Profile: 0.31 in (8 mm)
- Mounts in a standard 1-gang U.S. backbox

Communication and wiring

- Communicates via low-voltage IEC PELV/NEC Class 2 to HomeWorks QS processor on the QS link
- Each QS link on a HomeWorks QS processor can have up to 99 devices; the HomeWorks QS seeTouch 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 for button kits

Available finishes



Use **BOLD** color code in model number (Example: HQWA-W5BRLI-**WH**)

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

WH
White F, B
Gray E

LA
Light Almond F, B
Gray E

AL
Almond F, B
Gray E

BE
Beige F, B
Gray E

IV
Ivory F, B
Gray E

GR
Gray F, B
White E

BR
Brown F, B
White E

BL
Black F, B
White E

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

BN
Bright Nickel F
Black B
White E

BC
Bright Chrome F
Black B
White E

CLA
Clear Anodized Aluminum F
Black B
White E

SC
Satin Chrome F
Black B
White E

SN
Satin Nickel F
Black B
White E

QZ
Antique Bronze F
Black B
White E

BB
Bright Brass F
Black B
White E

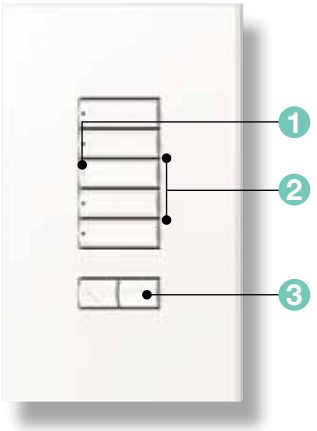
BRA
Brass Anodized Aluminum F
Black B
White E

SB
Satin Brass F
Black B
White E

QB
Antique Brass F
Black B
White E

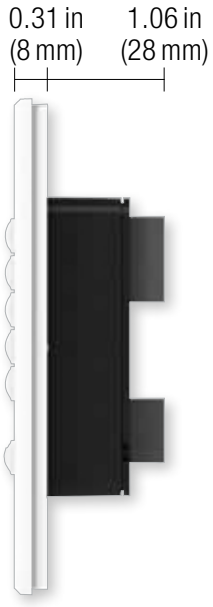
BLA
Black Anodized Aluminum F
Black B
White E

Explanation of features



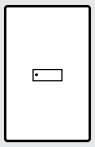
Non-insert HomeWorks QS Architectural-style seeTouch keypad

	Features
1 Status LEDs	• Show which keypad buttons have been activated
2 Programmable buttons	• Available with 1-7 buttons • Buttons provide control of lights, shades and HVAC
3 Raise/lower buttons	• Lights increase or decrease in intensity or shades/drapes move toward the open/close limit

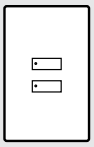


Available models

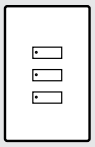
(Available in insert and non-insert styles, non-insert style shown)



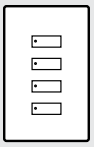
1-button



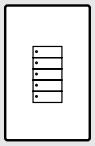
2-button



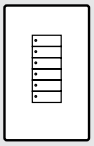
3-button



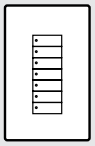
4-button



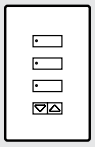
5-button



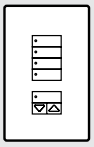
6-button



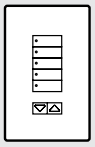
7-button



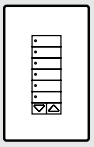
3-button with raise/lower



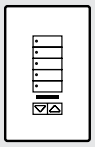
4-scene with raise/lower



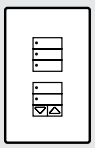
5-button with raise/lower



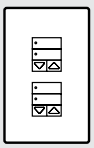
6-button with raise/lower



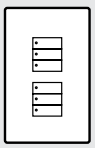
5-button with infrared receiver and raise/lower



Dual group with raise/lower



Dual group with dual raise/lower



Dual group

Model numbers

Keypads

1-button

Non-insert style	HQWA-W1BN-**XX**[1]
Insert style	HQWA-W1BI-**XX**[1]

2-button

Non-insert style	HQWA-W2BSN-**XX**[1]
Insert style	HQWA-W2BSI-**XX**[1]

3-button

Non-insert style	HQWA-W3BSN-**XX**[1]
Insert style	HQWA-W3BSI-**XX**[1]

4-button

Non-insert style	HQWA-W4BSN-**XX**[1]
Insert style	HQWA-W4BSI-**XX**[1]

5-button

Non-insert style	HQWA-W5BN-**XX**[1]
Insert style	HQWA-W5BI-**XX**[1]

6-button

Non-insert style	HQWA-W6BN-**XX**[1]
Insert style	HQWA-W6BI-**XX**[1]

7-button

Non-insert style	HQWA-W7BN-**XX**[1]
Insert style	HQWA-W7BI-**XX**[1]

Compatible with HomeWorks QS system.

Keypads with raise/lower

3-button with raise/lower

Non-insert style	HQWA-W3BSRLN-**XX**[1]
Insert style	HQWA-W3BSRLI-**XX**[1]

4-scene with raise/lower

Non-insert style	HQWA-W4SN-**XX**[1]
Insert style	HQWA-W4SI-**XX**[1]

5-button with raise/lower

Non-insert style	HQWA-W5BRLN-**XX**[1]
Insert style	HQWA-W5BRLI-**XX**[1]

6-button with raise/lower

Non-insert style	HQWA-W6BRLN-**XX**[1]
Insert style	HQWA-W6BRLI-**XX**[1]

Compatible with HomeWorks QS system.

Keypads with raise/lower and infrared (IR) receiver

5-button with raise/lower and IR receiver

Non-insert style	HQWA-W5BIRN-**XX**[1]
Insert style	HQWA-W5BIRI-**XX**[1]

Compatible with HomeWorks QS system.

Dual group keypads

Dual group with raise/lower

Non-insert style	HQWA-W1RLDN-**XX**[1]
Insert style	HQWA-W1RLDI-**XX**[1]

Dual group with dual raise/lower

Non-insert style	HQWA-W2RLDN-**XX**[1]
Insert style	HQWA-W2RLDI-**XX**[1]

Dual group

Non-insert style	HQWA-W3BDN-**XX**[1]
Insert style	HQWA-W3BDI-**XX**[1]

Compatible with HomeWorks QS system.

XX[1]: Architectural matte and metal finish codes, see pg. 395

Model numbers

Engraved replacement kits

1-button	
Non-insert style	RKA-W1BN-**XX**[1]-**E**[1]
Insert style	RKA-W1BI-**XX**[1]-**E**[1]

2-button	
Non-insert style	RKA-W2BSN-**XX**[1]-**E**[1]
Insert style	RKA-W2BSI-**XX**[1]-**E**[1]

3-button	
Non-insert style	RKA-W3BSN-**XX**[1]-**E**[1]
Insert style	RKA-W3BSI-**XX**[1]-**E**[1]

4-button	
Non-insert style	RKA-W4BSN-**XX**[1]-**E**[1]
Insert style	RKA-W4BSI-**XX**[1]-**E**[1]

5-button	
Non-insert style	RKA-W5BN-**XX**[1]-**E**[1]
Insert style	RKA-W5BI-**XX**[1]-**E**[1]

6-button	
Non-insert style	RKA-W6BN-**XX**[1]-**E**[1]
Insert style	RKA-W6BI-**XX**[1]-**E**[1]

7-button	
Non-insert style	RKA-W7BN-**XX**[1]-**E**[1]
Insert style	RKA-W7BI-**XX**[1]-**E**[1]

Includes faceplate, buttons and insert (when applicable)
Compatible with HomeWorks QS seeTouch keypads.

Engraved replacement kits with raise/lower

3-button with raise/lower	
Non-insert style	RKA-W3BSRLN-**XX**[1]-**E**[1]
Insert style	RKA-W3BSRLI-**XX**[1]-**E**[1]

4-scene with raise/lower	
Non-insert style	RKA-W4SN-**XX**[1]-**E**[1]
Insert style	RKA-W4SI-**XX**[1]-**E**[1]

5-button with raise/lower	
Non-insert style	RKA-W5BRLN-**XX**[1]-**E**[1]
Insert style	RKA-W5BRLI-**XX**[1]-**E**[1]

6-button with raise/lower	
Non-insert style	RKA-W6BRLN-**XX**[1]-**E**[1]
Insert style	RKA-W6BRLI-**XX**[1]-**E**[1]

Includes faceplate, buttons and insert (when applicable)
Compatible with HomeWorks QS seeTouch keypads.

Engraved replacement kits with raise/lower and infrared (IR) receiver

5-button with raise/lower and IR receiver	
Non-insert style	RKA-W5BIRN-**XX**[1]-**E**[1]
Insert style	RKA-W5BIRI-**XX**[1]-**E**[1]

Includes faceplate, buttons and insert (when applicable)
Compatible with HomeWorks QS seeTouch keypads.
IR replacement kits require IR keypads with IR functionality

XX[1]: Architectural matte and metal finish codes, see pg. 395
E[1]: Engraving form required with order. If engraving not desired, omit "E".

Insert style faceplate kits include faceplate, buttons, and insert.
Non-insert style faceplate kits include faceplate and buttons only.
Replacement kits ordered separately.

Engraved Dual group replacement kits

Dual group with raise/lower	
Non-insert style	RKA-W1RLDN-**XX**[1]-**E**[1]
Insert style	RKA-W1RLDI-**XX**[1]-**E**[1]

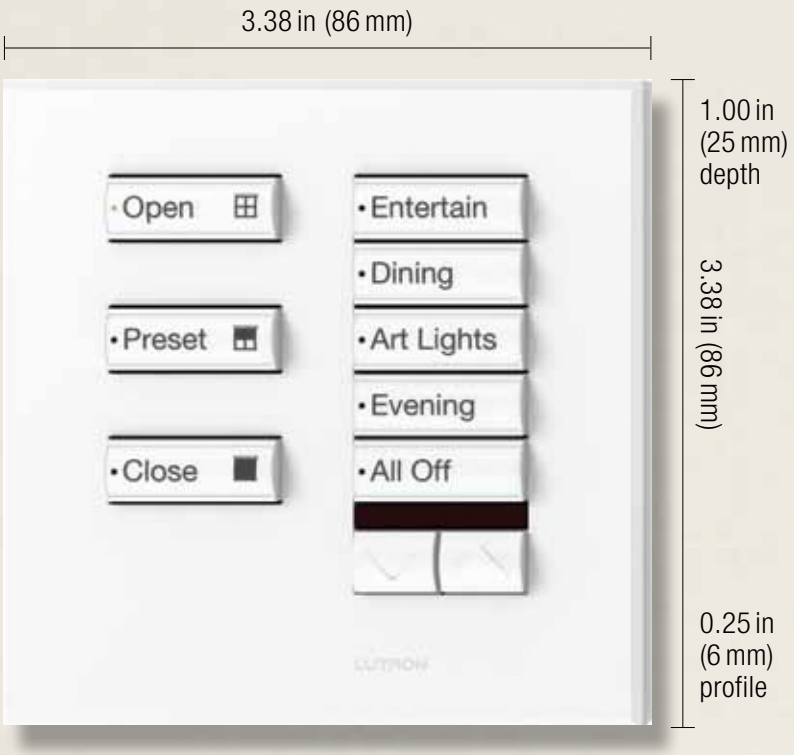
Dual group with dual raise/lower	
Non-insert style	RKA-W2RLDN-**XX**[1]-**E**[1]
Insert style	RKA-W2RLDI-**XX**[1]-**E**[1]

Dual group	
Non-insert style	RKA-W3BDN-**XX**[1]-**E**[1]
Insert style	RKA-W3BDI-**XX**[1]-**E**[1]

Includes faceplate, buttons and insert (when applicable)
Compatible with HomeWorks QS seeTouch keypads.

XX[1]: Architectural matte and metal finish codes, see pg. 395
E[1]: Engraving form required with order. If engraving not desired, omit "E".

Insert style faceplate kits include faceplate, buttons, and insert.
Non-insert style faceplate kits include faceplate and buttons only.
Replacement kits ordered separately.



Shown above: Non-insert style HomeWorks QS International seeTouch 8-button keypad with infrared (IR) receiver and raise/lower in White (HWIS-8BRLIR-F-WH)

Features and capacities

- Available with 2-10 buttons in insert and non-insert style
- Models available in 10 button configurations with options for raise/lower and IR receiver
- Large, rounded buttons are easy to use
- Backlit buttons or text make it easy to find and operate the keypad in low light conditions
- Each keypad includes two contact closure inputs on the back of the keypad
- Operates at 24 V DC
- Complete keypad created by ordering base unit (with or without IR receiver) and button/faceplate kit
- For information on engraving, text symbols, and backlit buttons/backlit text, see pgs. 667-668

Dimensions and mounting

- Width: 3.38 in (86 mm)
  Height: 3.38 in (86 mm)
  Depth: 1.00 in (25 mm)
  Profile: 0.25 in (6 mm)
- Mounts in either a round plastic backbox (EBB-15-RD, order separately) or a square metal backbox (EBB-15-SQ, order separately)

Communication and wiring

- Communicates via low-voltage IEC PELV/ NEC Class 2 wire to HomeWorks QS processor on the QS link
- Each QS link on a HomeWorks QS processor can have 99 devices; the HomeWorks QS seeTouch keypad counts as one device toward the limit
- Uses one power draw unit on QS link

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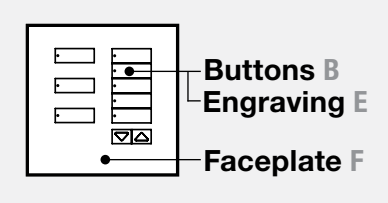
Available finishes



Use **BOLD** color code in model number (Example: HWIS-8BRL-I-**AW**)

Matte finishes

AW
Arctic White F, B
Gray E

Metallic finishes

AR
Argentum F
Black B
White E

MC
Mica F
Black B
White E

Metal finishes

SN
Satin Nickel F
Black B
White E

BN
Bright Nickel F
Black B
White E

SB
Satin Brass F
Black B
White E

BB
Bright Brass F
Black B
White E

SC
Satin Chrome F
Black B
White E

BC
Bright Chrome F
Black B

Special metal finishes

QZ
Antique Bronze F
Black B
White E

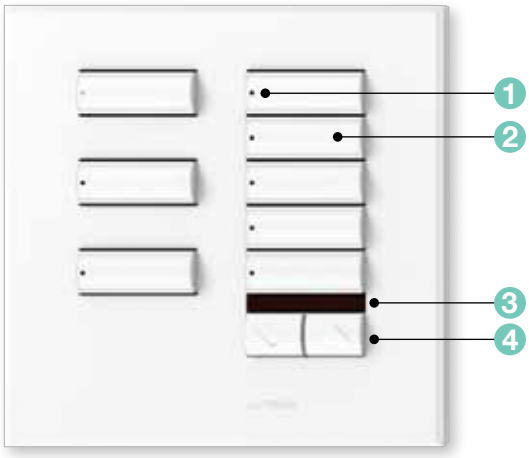
QB
Antique Brass F
Black B
White E

AU
Gold Plated F
Black B
White E

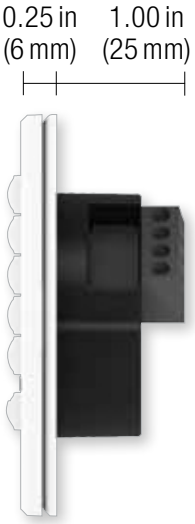
Color code indicates faceplate color. Models include button kit in coordinating colors as shown.

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.

Explanation of features



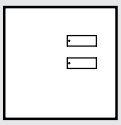
Non-insert style HomeWorks QS International seeTouch keypad



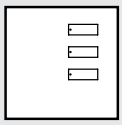
Features	
1 Status LEDs	• Show which keypad buttons have been activated
2 Programmable buttons	• Available with 2-10 button options • Buttons provide control of lights, shades and HVAC
3 Infrared (IR) receiver	• Accepts IR commands from a Lutron® remote or third-party universal remote
4 Raise/lower buttons	• Lights increase or decrease in intensity or shades/draperies move toward the open/close limit

Available models

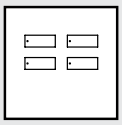
(Insert and non-insert styles, non-insert style shown)



2-button

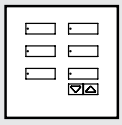


3-button



4-button

5-button with raise/lower



6-button with raise/lower

7-button with raise/lower

8-button with raise/lower

10-button with raise/lower

5-button with raise/lower and infrared (IR) receiver

8-button with raise/lower and IR receiver

Model numbers

Base units

Keypad without faceplate or button kit	HQWIS-NB-NONE
Keypad with IR receiver without faceplate or button kit	HQWIS-NBIR-NONE

Compatible with HomeWorks QS system.

Button/faceplate kit

2-button	
Non-insert style	HWIS-2B-F-**XX**[1]
Insert style	HWIS-2B-I-**XX**[1]

3-button	
Non-insert style	HWIS-3B-F-**XX**[1]
Insert style	HWIS-3B-I-**XX**[1]

4-button	
Non-insert style	HWIS-4B-F-**XX**[1]
Insert style	HWIS-5B-I-**XX**[1]

Includes faceplate, buttons and insert (when applicable)

Compatible with HomeWorks QS International seeTouch keypad base units.

XX[1]: Matte, metallic and metal finish codes, see pg. 402

Button/faceplate kit with raise/lower

5-button with raise/lower	
Non-insert style	HWIS-5BRL-F-**XX**[1]
Insert style	HWIS-5BRL-I-**XX**[1]
6-button with raise/lower	
Non-insert style	HWIS-6BRL-F-**XX**[1]
Insert style	HWIS-6BRL-I-**XX**[1]
7-button with raise/lower	
Non-insert style	HWIS-7BRL-F-**XX**[1]
Insert style	HWIS-7BRL-I-**XX**[1]
8-button with raise/lower	
Non-insert style	HWIS-8BRL-F-**XX**[1]
Insert style	HWIS-8BRL-I-**XX**[1]
10-button with raise/lower	
Non-insert style	HWIS-10BRL-F-**XX**[1]
Insert style	HWIS-10BRL-I-**XX**[1]

Includes faceplate, buttons and insert (when applicable)

Compatible with HomeWorks QS International seeTouch keypad base units.

Button/faceplate kit with raise/lower and infrared (IR) receiver

5-button with raise/lower and IR receiver	
Non-insert style	HWIS-5BIR-F-**XX**[1]
Insert style	HWIS-5BIR-I-**XX**[1]
8-button with raise/lower and IR receiver	
Non-insert style	HWIS-8BIR-F-**XX**[1]
Insert style	HWIS-8BIR-I-**XX**[1]

Includes faceplate, buttons and insert (when applicable)

IR button/faceplate kits require IR keypad base unit with IR functionality

Compatible with HomeWorks QS International seeTouch keypad base units.

Engraved replacement button kits

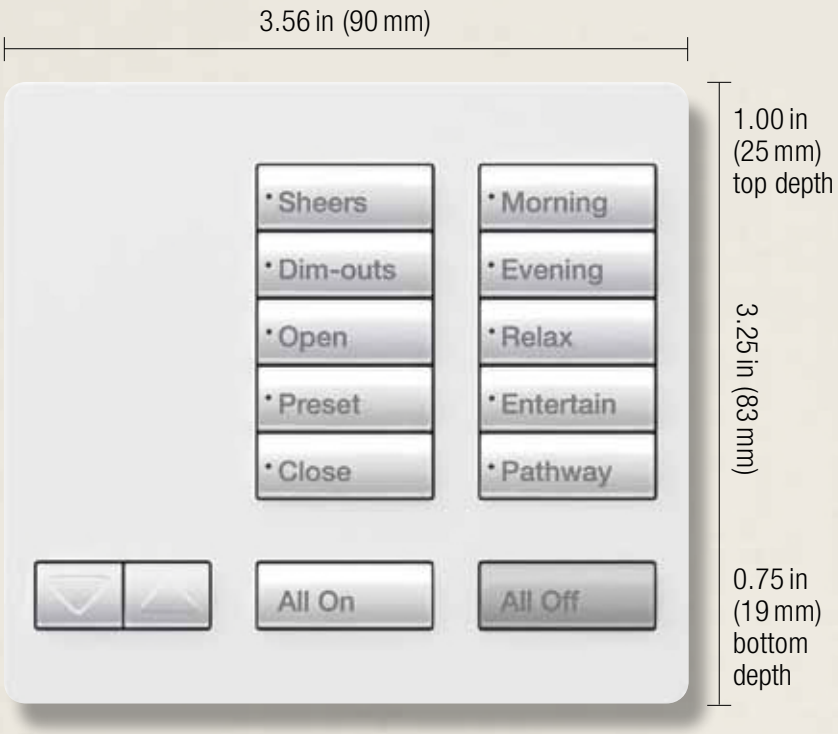
2-button	SIB-2B-**XX**[1]-**E**[1]
3-button	SIB-3B-**XX**[1]-**E**[1]
4-button	SIB-4B-**XX**[1]-**E**[1]
5-button with raise/lower	SIB-5BRL-**XX**[1]-**E**[1]
5-button with raise/lower and IR receiver	SIB-5BIR-**XX**[1]-**E**[1]
6-button with raise/lower	SIB-6BRL-**XX**[1]-**E**[1]
7-button with raise/lower	SIB-7BRL-**XX**[1]-**E**[1]
8-button with raise/lower	SIB-8BRL-**XX**[1]-**E**[1]
8-button with raise/lower and IR receiver	SIB-8BIR-**XX**[1]-**E**[1]
10-button with raise/lower	SIB-10BRL-**XX**[1]-**E**[1]

IR button/faceplate kits require IR keypad base unit with IR functionality

Compatible with HomeWorks QS International seeTouch keypad base units.

XX[1]: Matte, metallic and metal finish codes, see pg. 402

E[1]: Engraving form required with order. If engraving not desired, omit “E”.



Shown actual size: HomeWorks QS 10-button with master on/off and raise/lower tabletop keypad in Snow (HQR-T10RL-SW)

Features and capacities

- Available with 5-15 buttons with raise/lower and options for master on/off buttons
- Programmable to select whole-home, single-room preset levels or single zones of lights, shades or HVAC
- Functionality determined in the field and programmed via HomeWorks QS software
- Large, backlit buttons are easy to use
- Backlit buttons or text make it easy to find and operate the keypad in low-light condition
- For information on engraving, text symbols and backlit buttons/backlit text, see pgs. 667-668
- Keypads can be powered by DC adapter (included) or with two AAA batteries
- Adjustable keypad backlighting

Dimensions and mounting

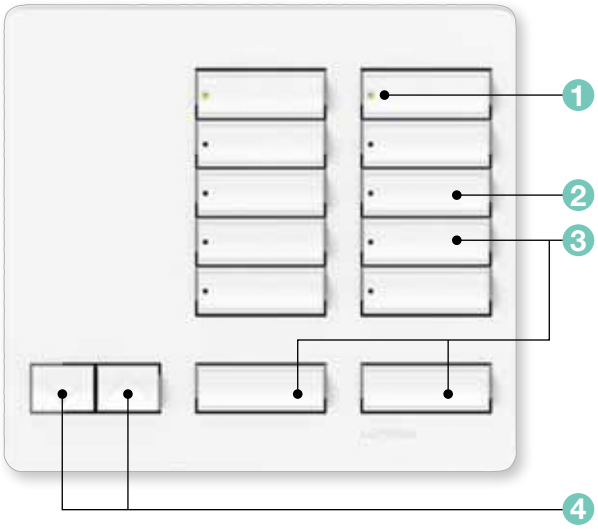
- Width: 3.56 in (90 mm); Height: 3.25 in (83 mm); Top depth: 1.00 in (25 mm); Bottom depth: 0.75 in (19 mm)
- Mounting bracket included for optional wall-mounting

Communication and wiring

- Communicates via Lutron® reliable Clear Connect® RF technology to other Lutron wireless devices
- Operates at 434 MHz
- Must be located within 30 ft (9 m) of a hybrid repeater
- HomeWorks QS system can have up to 99 devices per radio frequency (RF) link

Download specification submittal
Download high resolution product image
Download engraving sheet for button kits

Explanation of features



HomeWorks QS wireless tabletop keypad

	Features
1 Status LEDs	• Show status of devices being controlled
2 Backlit buttons or text	• Easy to read and use in low-light conditions
3 Programmable buttons	• Press to activate desired light levels, shade positions, or HVAC settings • Available in three columns for 5, 10 or 15 buttons
4 Raise/lower buttons	• Lights increase or decrease in intensity or shades/draperies move towards the open/close limit

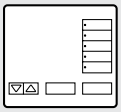
Available finishes

Satin finishes

SW
Snow

MN
Midnight

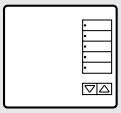
Available models



5-button with master on/off and raise/lower

10-button with master on/off and raise/lower

15-button with master on/off and raise/lower



5-button with column raise/lower

10-button with column raise/lower

15-button with column raise/lower

Model numbers

Tabletop keypad (434 MHz)

5-button with master on/off and raise/lower	HQR-T5RL-**XX1**
10-button with master on/off and raise/lower	HQR-T10RL-**XX**[1]
15-button with master on/off and raise/lower	HQR-T15RL-**XX**[1]
5-button with column raise/lower	HQR-T5CRL-**XX**[1]
10-button with column raise/lower	HQR-T10CRL-**XX**[1]
15-button with column raise/lower	HQR-T15CRL-**XX**[1]

Compatible with HomeWorks QS system.

Tabletop keypads (434 MHz - Brazil)

5-button with master on/off and raise/lower	HQR-T5RL-**XX**[1] -BA
10-button with master on/off and raise/lower	HQR-T10RL-**XX**[1]-BA
15-button with master on/off and raise/lower	HQR-T15RL-**XX**[1]-BA
5-button with master on/off	HQR-T5CRL-**XX**[1]-BA
10-button with master on/off	HQR-T10CRL-**XX**[1]-BA
15-button with master on/off	HQR-T15CRL-**XX**[1]-BA

Compatible with HomeWorks QS system.

Tabletop keypads (868 MHz)

5-button with master on/off and raise/lower	HQK-T5RL-**XX**[1]
10-button with master on/off and raise/lower	HQK-T10RL-**XX**[1]
15-button with master on/off and raise/lower	HQK-T15RL-**XX**[1]
5-button with master on/off	HQK-T5CRL-**XX**[1]
10-button with master on/off	HQK-T10CRL-**XX**[1]
15-button with master on/off	HQK-T15CRL-**XX**[1]

Compatible with HomeWorks QS system.

XX[1]: Available in Snow (SW) and Midnight (MN)

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.

Tabletop keypads (868 limited channel MHz)

5-button with master on/off and raise/lower	HQM-T5RL-**XX**[1]
10-button with master on/off and raise/lower	HQM-T10RL-**XX**[1]
15-button with master on/off and raise/lower	HQM-T15RL-**XX**[1]
5-button with master on/off	HQM-T5CRL-**XX**[1]
10-button with master on/off	HQM-T10CRL-**XX**[1]
15-button with master on/off	HQM-T15CRL-**XX**[1]

Compatible with HomeWorks QS system.

Tabletop keypads (434 limited channel MHz)

5-button with master on/off and raise/lower	HQQ-T5RL-**XX**[1]
10-button with master on/off and raise/lower	HQQ-T10RL-**XX**[1]
15-button with master on/off and raise/lower	HQQ-T15RL-**XX**[1]
5-button with master on/off	HQQ-T5CRL-**XX**[1]
10-button with master on/off	HQQ-T10CRL-**XX**[1]
15-button with master on/off	HQQ-T15CRL-**XX**[1]

Compatible with HomeWorks QS system.

Tabletop keypads (865 MHz)

5-button with master on/off and raise/lower	HQN-T5RL-**XX**[1]
10-button with master on/off and raise/lower	HQN-T10RL-**XX**[1]
15-button with master on/off and raise/lower	HQN-T15RL-**XX**[1]
5-button with master on/off	HQN-T5CRL-**XX**[1]
10-button with master on/off	HQN-T10CRL-**XX**[1]
15-button with master on/off	HQN-T15CRL-**XX**[1]

Compatible with HomeWorks QS system.

Engraved button kits

5-button with master on/off and raise/lower	LBK-T5RL-**XX**[1]-**E**[1]
10-button with master on/off and raise/lower	LBK-T10RL-**XX**[1]-**E**[1]
15-button with master on/off and raise/lower	LBK-T15RL-**XX**[1]-**E**[1]
5-button with column raise/lower	LBK-T5CRL-**XX**[1]-**E**[1]
10-button with column raise/lower	LBK-T10CRL-**XX**[1]-**E**[1]
15-button with column raise/lower	LBK-T15CRL-**XX**[1]-**E**[1]

Compatible with HomeWorks QS wireless tabletop keypads.

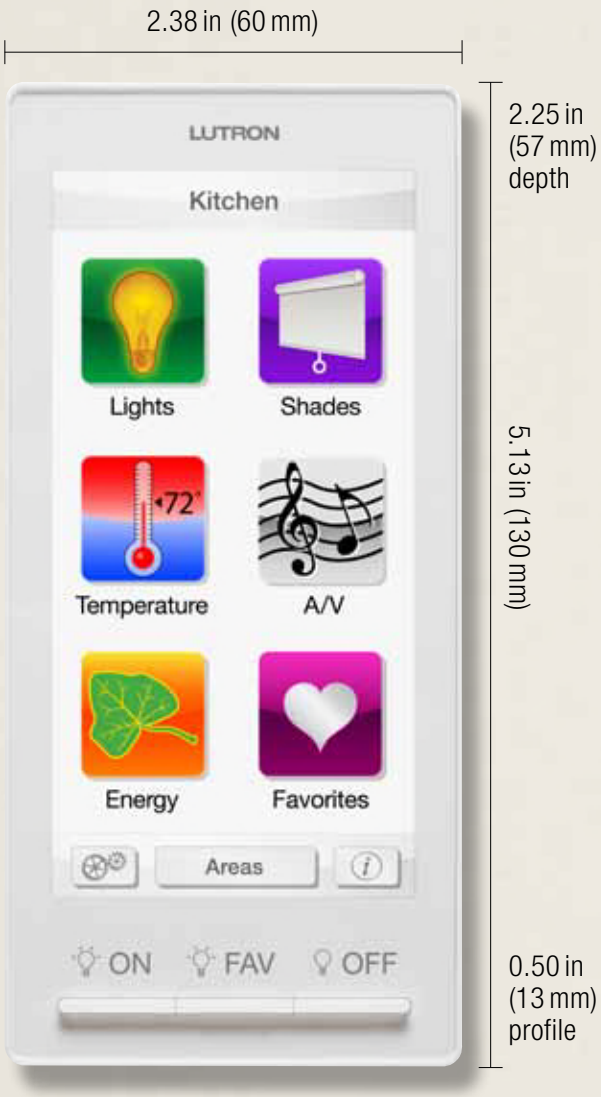
Engraved faceplate kits

5-button with master on/off and raise/lower	LFK-T5RL-**XX**[2]-**E**[1]
10-button with master on/off and raise/lower	LFK-T10RL-**XX**[2]-**E**[1]
15-button with master on/off and raise/lower	LFK-T15RL-**XX**[2]-**E**[1]
5-button with column raise/lower	LFK-T5CRL-**XX**[2]-**E**[1]
10-button with column raise/lower	LFK-T10CRL-**XX**[2]-**E**[1]
15-button with column raise/lower	LFK-T15CRL-**XX**[2]-**E**[1]

Includes faceplates and buttons.
Compatible with HomeWorks QS wireless tabletop keypads.

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.

XX[1]: Available in Snow (SW) and Midnight (MN)
XX[2]: Architectural matte and metal finishes, see pg. 395
E[1]: Engraving form required with order. If engraving not desired, omit "E".



Shown above: HomeWorks QS dynamic keypad in White (HQ-J-DK420-WH)

Features and capacities

- Provides the functionality of multiple keypads in an easy-to-navigate, intuitive arrangement
- Control and monitor lighting scenes, individual lights, or groups of shades in multiple areas of the home
- Capacitive touch interface provides a rich user experience and flexible control for a single room or an entire home
- Three hard buttons provide instant access to frequently used lighting functions
- Create or modify on-screen buttons easily through HomeWorks QS software
- Available for wired or wireless installation
- Operates at 24 V DC
- Simple, intuitive control of lights, shades/draperies, compatible HVAC and A/V equipment from a single location

Dimensions and mounting

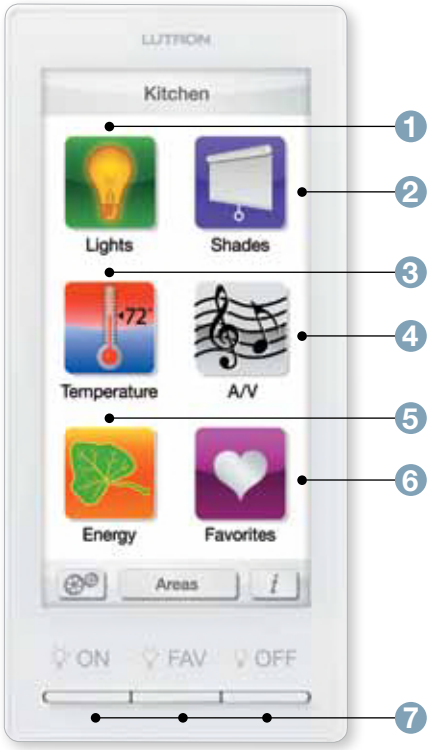
- Width: 2.38 in (60 mm)
  Height: 5.13 in (130 mm)
  Depth: 2.25 in (57 mm)
  Profile: 0.50 in (13 mm)
- Mounts on the wall using included custom mounting frame

Communication and wiring

- Wired dynamic keypad communicates via low-voltage IEC PELV/NEC Class 2 wire to HomeWorks QS processor on the QS link
- Wireless dynamic keypad communicates via Lutron® reliable Clear Connect® radio frequency (RF) technology to other Lutron wireless devices
- Wireless model operates at 434 MHz
- Wireless dynamic keypad must be located within 30 ft (9 m) of a hybrid repeater
- HomeWorks QS system can have up to 99 devices per RF link and QS link
- Consumes six power draw units on the QS link

Download specification submittal
Download high resolution product image

Explanation of features

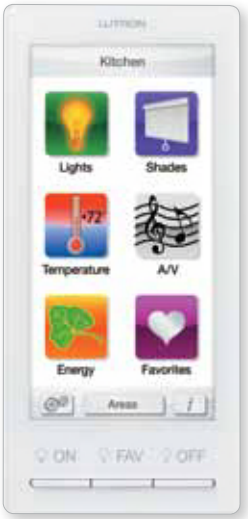


HomeWorks QS dynamic keypad

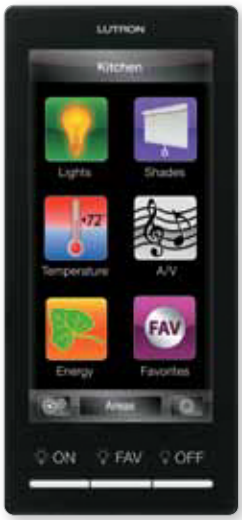
0.50 in
(13 mm)

Features	
1 Lights	• Control and monitor lighting scenes or individual lights in multiple areas of the home
2 Shades	• Control and monitor individual or groups of shades/draperies in multiple areas of the home
3 Temperature	• View the current temperature and adjust set point, system mode and schedule for multiple areas
4 Audio/video	• Access custom controls or A/V equipment by integrating with a third-party A/V control processor
5 Energy	• View current energy saving mode and adjust “Green” button settings
6 Favorites	• Quickly access most frequently used system functions
7 Backlit hard buttons	• Provide instant access to frequently used lighting functions

Available finishes



WH
White



BL
Black

Model numbers

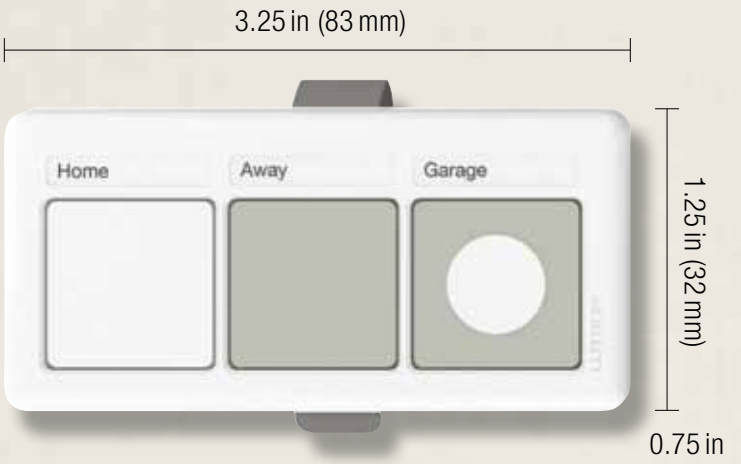
HomeWorks QS dynamic keypad

Dynamic keypad (434 MHz/wired)	HQ-J-DK420-**XX**[1]
Dynamic keypad (wired only)	HQ-W-DK420-**XX**[1]

Compatible with HomeWorks QS system.

XX[1]: Available in White (WH) or Black (BL)

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.



Shown actual size: HomeWorks QS visor control transmitter in Snow (LR-3B-H-SW)

Features and capacities

- Allows lights, shades, HVAC and other equipment to be controlled from the car with just the touch of a button
- Can activate up to seven different options for lights, shades and HVAC
- Visor control receiver required (available separately), see pg. 509
- Can remotely control the “keypad”, “security input” and “output” buttons on the receiver
- HomeLink® compatible
- Battery included; 10-year battery life
- Preprinted and blank labels are included for naming scenes or buttons
- Available in Snow (SW)

Dimensions and mounting

- Width: 3.25 in (83 mm)
  Height: 1.25 in (32 mm)
  Profile: 0.75 in (19 mm)
- Visor clip included

Communication and wiring

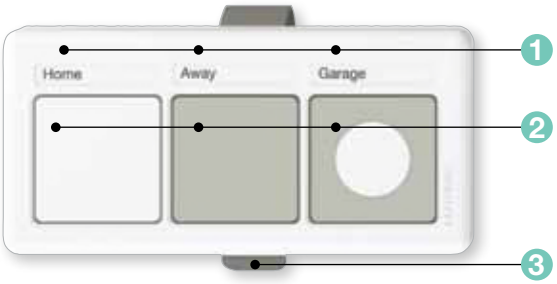
- Utilizes HomeLink to communicate with the receiver
- Operates at 390 MHz
- Typical operating distance between a receiver and transmitter is 150 ft (46 m)
- Up to ten transmitters can be used with a single receiver

Related component

HomeWorks QS visor control receiver, power cord not shown (available separately, see pg. 509)

Download specification submittal
Download high resolution product image

Explanation of features



HomeWorks QS visor control transmitter

	Features
1 Labels	• Place pre-printed labels in depression to name buttons
2 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 HomeWorks QS systems.

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

Features and capacities

- Provides control and monitoring of a single HVAC zone
- 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
- eco button saves energy by adjusting set points by a programmed amount
- Features flush-mounting and an elegant, slim design
- Insert-style allows control to be ganged with other devices such as dimmers and keypads
- Can be used as accessory control for TouchPRO Wireless® thermostat
- Coordinating Claro®, Satin Color® and Stainless Steel faceplates available separately, see pg. 640

Dimensions and mounting

- Width: 2.94 in (75 mm)
  Height: 4.69 in (119 mm)
  Depth: 1.21 in (31 mm)
  Profile: 0.31 in (8 mm)
- Mounts into 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
- Operates at 434 MHz
- Must be located within 30 ft (9 m) of a hybrid repeater
- HomeWorks QS system can have up to 99 devices per radio frequency (RF) link
- Operates at 24 V or 120 V AC
- Wires via line-voltage (requires neutral) or low-voltage IEC PELV/NEC Class 2

Related components

Wireless wall-mount temperature sensor (available separately, see pg. 438)

HVAC controller (available separately, see pg. 506)

Download specification submittal
Download high resolution product image

Available finishes

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

Gloss finishes*

WH
White

LA
Light Almond

AL
Almond

IV
Ivory

GR
Gray

BR
Brown

BL
Black

Satin finishes*

SW
Snow

LS
Limestone

BI
Biscuit

ES
Eggshell

PD
Palladium

TP
Taupe

ST
Stone

BG
Bluestone

PL
Plum

TQ
Turquoise

GS
Goldstone

DS
Desert Stone

GB
Greenbriar

MS
Mocha Stone

TC
Terracotta

SI
Sienna

HT
Hot

MR
Merlot

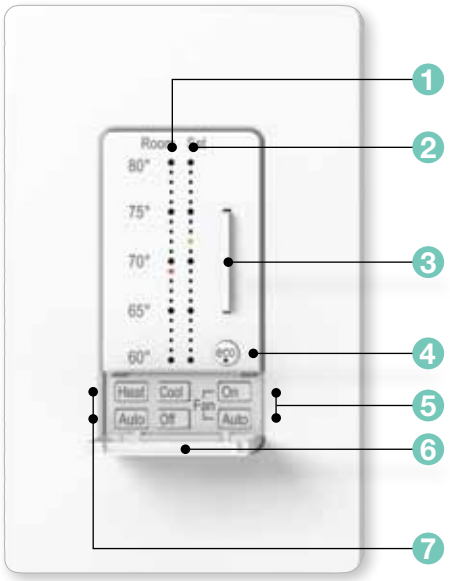
MN
Midnight

SS**
Stainless Steel
(faceplate only)

* Coordinating faceplates only available separately. For faceplate information, see pg. 642.

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

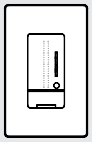
Explanation of features



seeTemp wall control with lid open

	Features
1 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
7 System mode buttons	• Buttons will light up according to the following: Heat–red, Cool–blue, Auto–orange, Off–orange

Available models



seeTemp
wall control

Model numbers

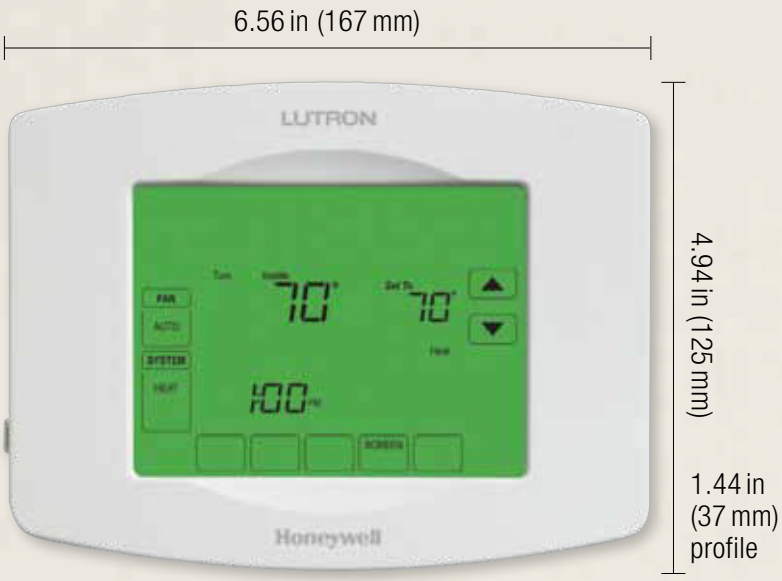
seeTemp wall control
120 V @ 50/60 Hz
24 V~ Class 2

Fahrenheit model (°F)	LRD-WST-F-**XX**[1]
Celsius model (°C)	LRD-WST-C-**XX**[1]

Compatible with HomeWorks QS systems.

XX[1]: Gloss and Satin Color® codes, see pg. 416
(Faceplates not included, order separately, see pg. 416)

For specific radio frequency by country, refer to the radio frequency chart on pg. 695.
For specific voltage by country information refer to the voltage chart on pg. 692.



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

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 systems to integrate seamlessly with the HomeWorks QS system
- Installs like a conventional thermostat
- Allows the ability to adjust heating and cooling systems any time of the day from keypads, sensors, mobile devices and third-party control systems
- Create energy-saving schedules using Home Control+ app or HomeWorks® QS software
- Features an intuitive touch screen interface
- Compatible with seeTemp® wall controls, making it easy to add additional points of control
- Operates at 24 V
- Available in White

Dimensions and mounting

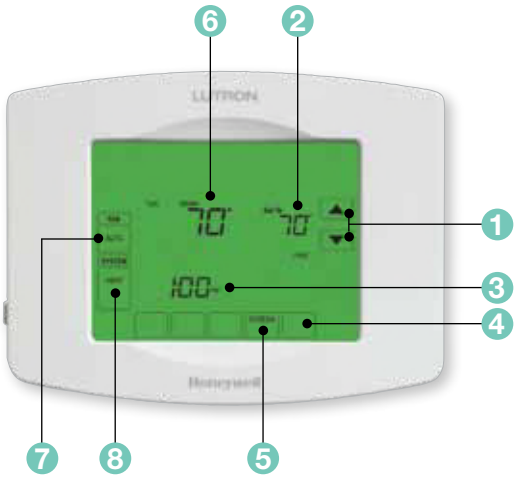
- Width: 6.56 in (167 mm);
  Height: 4.94 in (125 mm);
  Profile: 1.44 in (37 mm);
- Mounts to wall (wall bracket included)

Communication and wiring

- Communicates via Lutron reliable Clear Connect RF technology to other Lutron® wireless devices
- Must be located within 30 ft (9 m) of a hybrid repeater
- Requires 24 V AC low-voltage common connection from the HVAC equipment or use the included wiring module for retrofit applications where no common wire is available
- Operates at 434 MHz
- HomeWorks QS system can have up to 99 devices per RF link

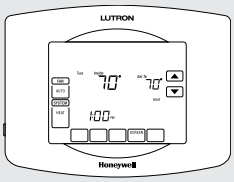
Download specification submittal
Download high resolution product image

Explanation of features



	Features	
1	Temperature adjustments	• Press to adjust temperature settings
2	Current set point	• Displays temperature set point
3	Current time	• Displays current time
4	More button	• Before addressing to a Lutron system—press the MORE button to view the wireless connection screen • Also, the MORE button can be programmed to cycle through the replacement schedules for the filter pad, UV lamp, and humidity pad
5	Screen cleaning button	• Press to lock thermostat keypad for 30 seconds to clean screen
6	Current inside temperature	• Displays current inside temperature
7	Fan setting button	• Press to select fan operation • On—fan is always on • Auto—fan runs only when the heating or cooling system is on
8	System setting button	• Press to select system type • 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.

Available models



TouchPRO Wireless thermostat

Model numbers

TouchPRO Wireless thermostat

TouchPRO Wireless thermostat	LR-HWLV-HVAC

Compatible with HomeWorks QS systems.

Energy-saving sensors

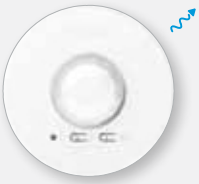
Sensors detect motion, daylight and temperature to provide automatic, energy-saving control of lighting, window shading and other building systems.

The sensors addressed in this guide are specific to each country's voltage and frequency requirements. Please confirm that the products you have selected match the required voltages (pg. 692) and radio frequency (pg. 695) listed by country.

Sensor options include:

- Occupancy/vacancy sensors
- Vacancy only sensors
- Daylight sensors
- Temperature sensors

Wireless



Radio Powr Savr™ ceiling-mount occupancy/vacancy sensors
pg. 424

Radio Powr Savr corner, hallway and wall-mount occupancy/vacancy sensors
pg. 428

Radio Powr Savr ceiling-mount daylight sensors
pg. 435

Wall-mount temperature sensor
pg. 438

Radio shadow sensor
pg. 440

Wired

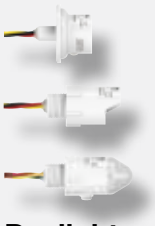
LOS-C series ceiling-mount occupancy sensor
pg. 443

LOS-W series wall-mount occupancy sensor
pg. 449

High-bay occupancy sensor
pg. 452

Photosensor
pg. 456

Daylight sensor
pg. 458



Daylight sensor packages
pg. 461

Additional components

Infrared partition status sensor
pg. 464

Power packs
pg. 466

Wireless Radio Frequency (RF) communication

Infrared (IR) communication

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)

Radio Powr Savr™ ceiling-mount occupancy/vacancy sensor

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

Features and capacities

- Simple installation with no wiring
- Passive Infrared (PIR) with exclusive Lutron XCT™ technology for fine motion detection
- 360º coverage
- Occupancy/vacancy has auto-on/auto-off, manual-on/auto-off or auto-on low light/ auto-off control (low light 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
- Time-out options include 1 minute, 5 minutes, 15 minutes, and 30 minutes
- Ability to add additional time out options through software programming

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- Recommended for 8-12 ft (2.4-3.7 m) ceilings
- Multiple sensors can be added for extended coverage—refer to product specification submittals of receiving device to determine system limits
- For indoor use only, temperature: 32° F-104° F (0° C-40° C)
- Battery included; 10-year battery life design
- Available in White (WH)

Dimensions and mounting

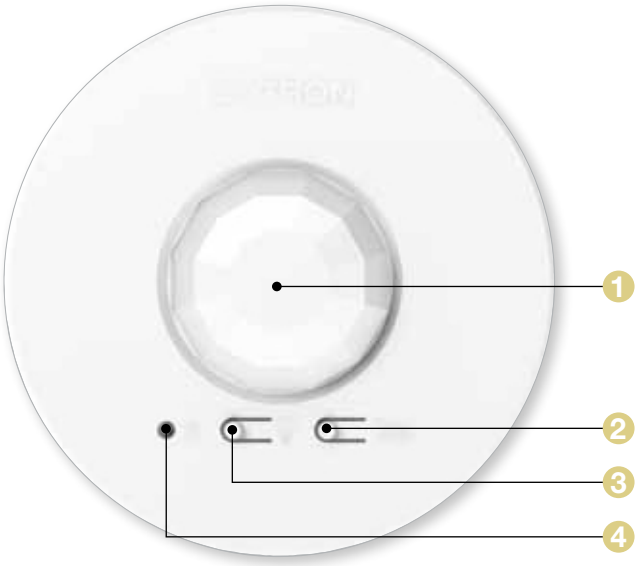
- Diameter: 3.57 in (91 mm)
  Depth: 1.13 in (29 mm)
- Mount within 60 ft (18 m) line-of-sight or 30 ft (9.1 m) through walls of the receiving devices
- Can be recess or surface mounted to solid or drop ceilings (recess mounting bracket P/N L-CMDPIRKIT, sold separately)

Communication

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to the HomeWorks QS repeater, a GRAFIK Eye® QS wireless main unit or QS sensor module
- Models available for operation at 434 MHz, 434 limited channel MHz, 865 MHz, 868 MHz or 868 limited channel MHz
- Each RF link in a HomeWorks QS system can have up to 99 wireless devices; each Radio Powr Savr occupancy vacancy sensor counts as one wireless device toward the limit
- Each QS sensor module can communicate with up to ten Radio Powr Savr occupancy sensors
- Each GRAFIK Eye QS main unit can communicate with up to thirty wireless devices; each Radio Powr Savr occupancy sensor counts as one wireless device toward the limit
- Each QS link on a Quantum processor can have up to 100 occupancy sensors; each Radio Powr Savr occupancy sensor counts as one occupancy sensor toward the limit

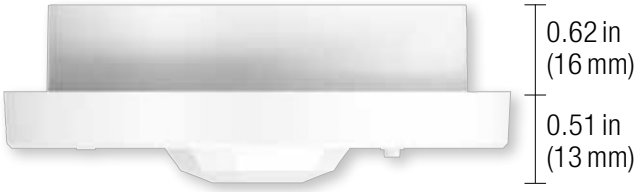
Radio Powr Savr™ ceiling-mount occupancy/vacancy sensor

Explanation of features



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)	
Occupancy/vacancy	LRF3-OCRB-P-WH

Ceiling-mount (868 limited channel MHz)	
Occupancy/vacancy	LRF4-OCRB-P-WH

Ceiling-mount (865 MHz)	
Occupancy/vacancy	LRF5-OCR2B-P-WH

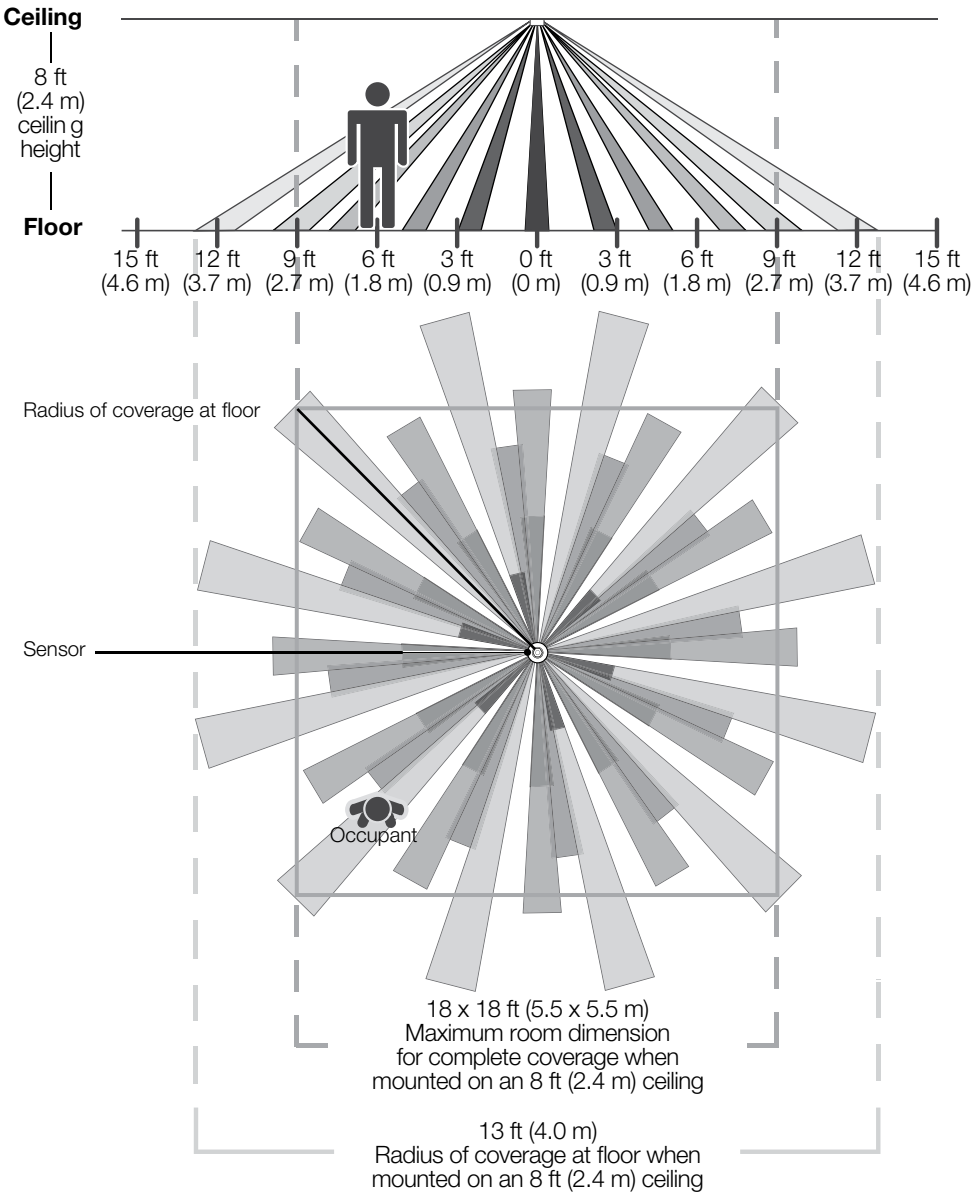
Ceiling-mount (434 limited channel MHz)	
Occupancy/vacancy	LRF7-OCR2B-P-WH

Compatible with the Quantum® and HomeWorks QS systems

For specific radio frequency information by country, refer to radio frequency chart on pg. 695.

Coverage

Sensor coverage pattern* 8 ft (2.4 m) ceiling shown



Detection range for fine motion

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

Features and capacities

- Simple installation with no wiring
- Passive Infrared (PIR) with exclusive Lutron XCT™ technology for fine motion detection
- Occupancy/vacancy has auto-on/auto-off and manual on/auto-off
- Vacancy model has manual on/auto-off control to meet California Title 24 Section 119 (j) requirements
- Three models available:
  - Wall-mount: 180° field-of-view
  - Corner-mount: 90° field-of-view
  - Hallway: Long, narrow field-of-view

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

Dimensions and mounting

- Width: 1.80 in (46 mm); Height: 4.35 in (110 mm); Depth: 1.35 in (34 mm)
- Mount within 60 ft (18 m) line-of-sight or 30 ft (9 m) through walls, of the receiving devices
- Temporary mounting hardware (included) allows for optimum sensor placement and coverage

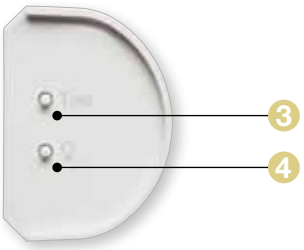
Communication

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to the HomeWorks QS repeater, a GRAFIK Eye® QS wireless main unit or QS sensor module
- Models available for operation at 434 MHz or 434 limited channel MHz
- Each RF link in a HomeWorks QS system can have up to 99 wireless devices; each Radio Powr Savr occupancy vacancy sensor counts as one wireless device toward the limit
- Each QS sensor module can communicate with up to ten Radio Powr Savr occupancy sensors
- Each GRAFIK Eye QS main unit can communicate with up to thirty wireless devices; each Radio Powr Savr occupancy sensor counts as one wireless device toward the limit
- Each QS link on a Quantum processor can have up to 100 occupancy sensors; each Radio Powr Savr occupancy sensor counts as one occupancy sensor toward the limit

Radio Powr Savr™ wall-mount occupancy/vacancy sensor

Explanation of features

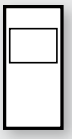
Radio Powr Savr wall-mount wireless occupancy/vacancy sensor



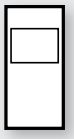
Features	
1 Sensor lens	• Lens varies internally based on model • Lens will illuminate orange in response to test mode
2 Model options	• 180° field-of-view, 90° field-of-view for corner mounting, and hallway sensor for long, narrow field-of-view
3 Sensor test button	• Lens will illuminate in response to motion; tests placement and coverage
4 Lights on/off button	• Signals load control to turn on/off; tests RF range

Radio Powr Savr™ wall-mount occupancy/vacancy sensor

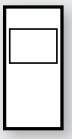
Available models



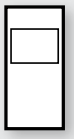
Wall (180°) occupancy/ vacancy



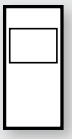
Wall (180°) vacancy only



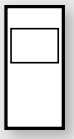
Corner (90°) occupancy/ vacancy



Corner (90°) vacancy only



Hallway occupancy/ vacancy



Hallway vacancy only

Model numbers

Wireless occupancy/vacancy sensors

180° wall mount (434 MHz)	
Occupancy/vacancy	LRF2-OWLB-P-WH
Vacancy only	LRF2-VWLB-P-WH

180° wall mount (434 limited channel MHz)	
Occupancy/vacancy	LRF7-OWLB-P-WH

90° corner mount (434 MHz)	
Occupancy/vacancy	LRF2-OKLB-P-WH
Vacancy only	LRF2-VKLB-P-WH

90° corner mount (434 limited channel MHz)	
Occupancy/vacancy	LRF7-OKLB-P-WH

Hallway (434 MHz)	
Occupancy/vacancy	LRF2-OHLB-P-WH
Vacancy only	LRF2-VHLB-P-WH

Hallway (434 limited channel MHz)	
Occupancy/vacancy	LRF7-OHLB-P-WH

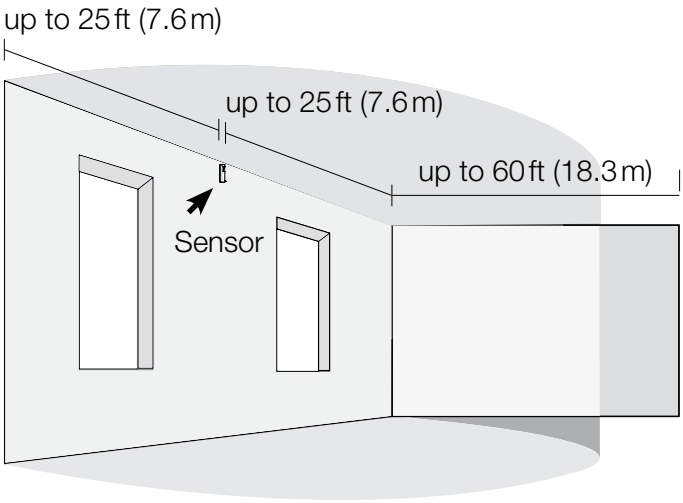
Compatible with the Quantum® and HomeWorks QS systems

For specific radio frequency information by country, refer to radio frequency chart on pg. 695.

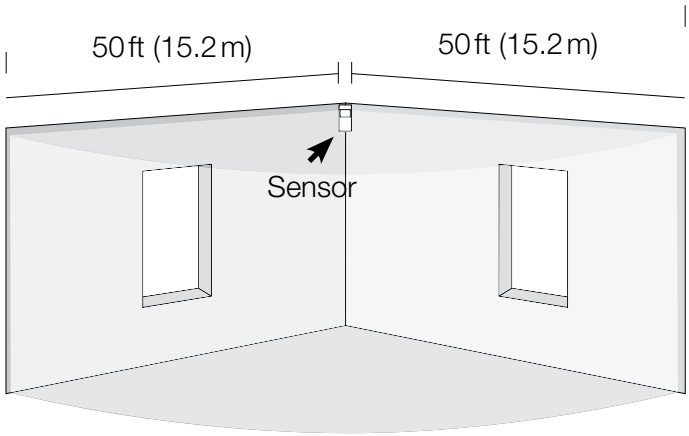
Typical mounting illustrations

For illustration purposes only.
Consult specific coverage pattern (pgs. 432-434) to determine appropriate location.

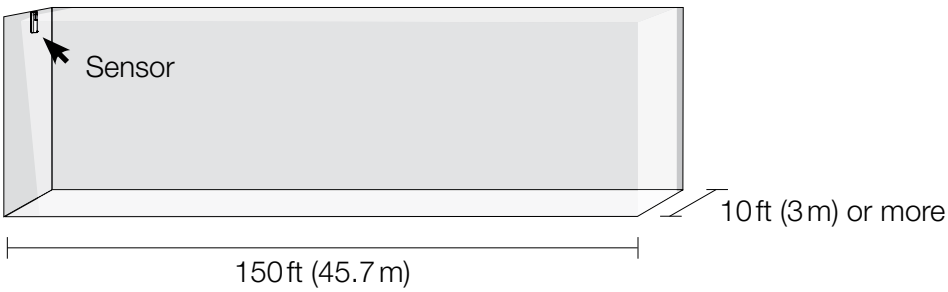
180° field-of-view wall-mount sensor



90° field-of-view corner-mount sensor

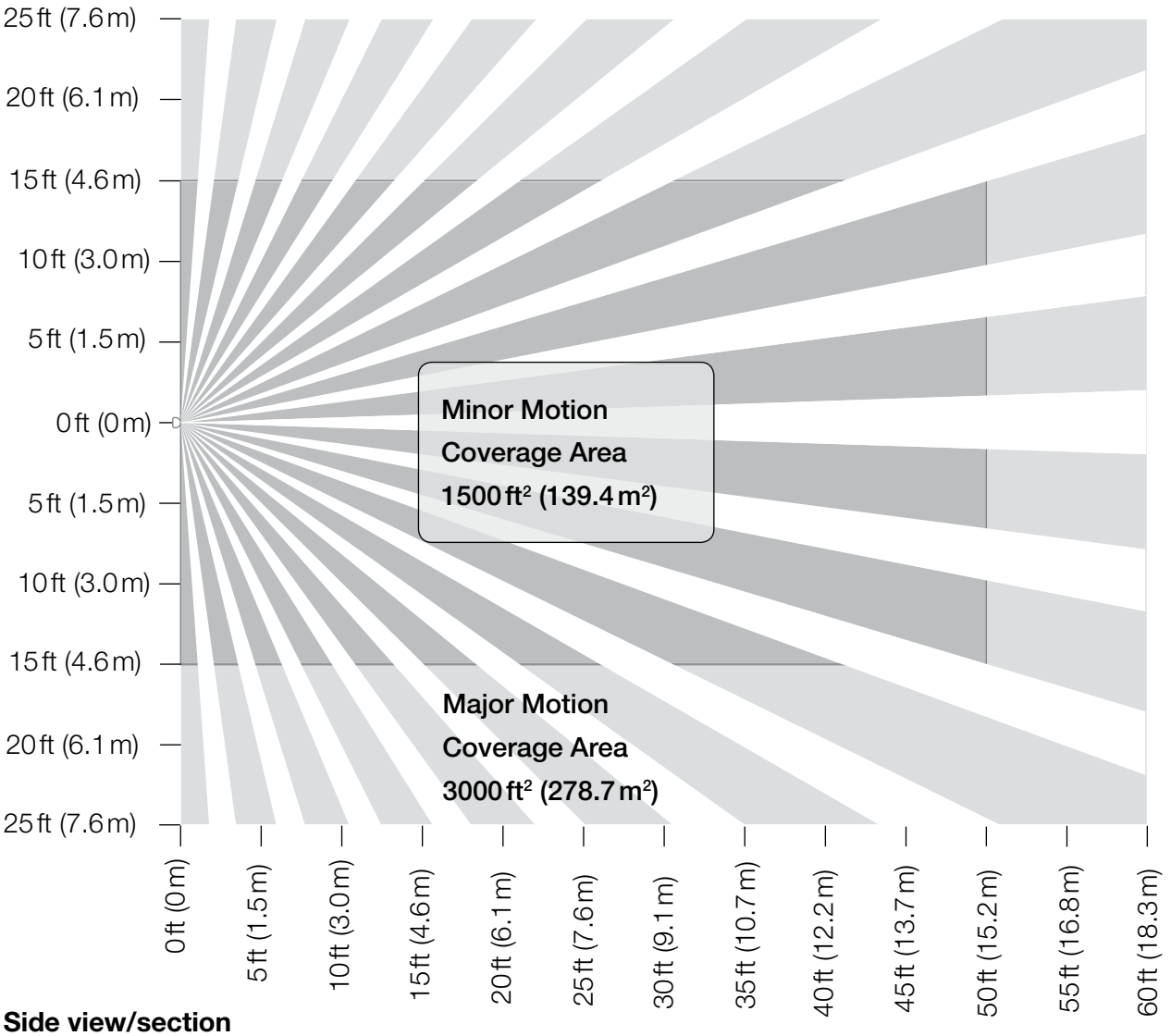


Hallway long, narrow field-of-view sensor

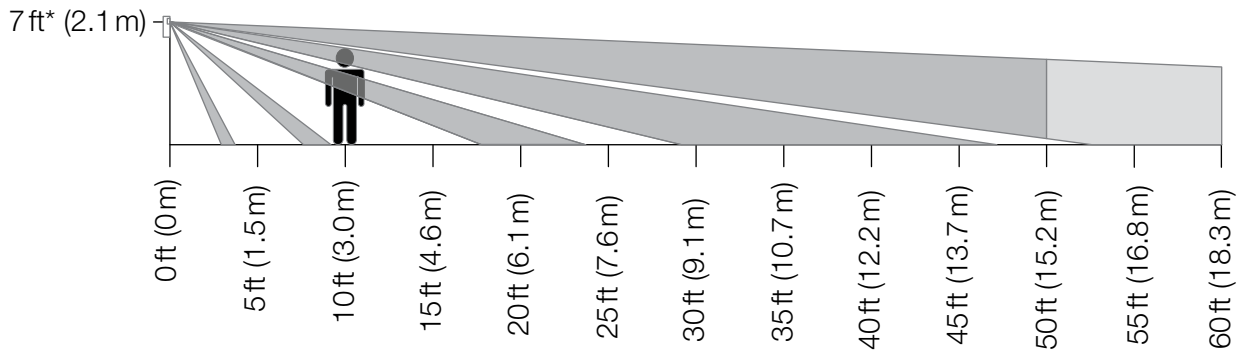


180° field-of-view wall-mount sensor coverage

Top view/plan view



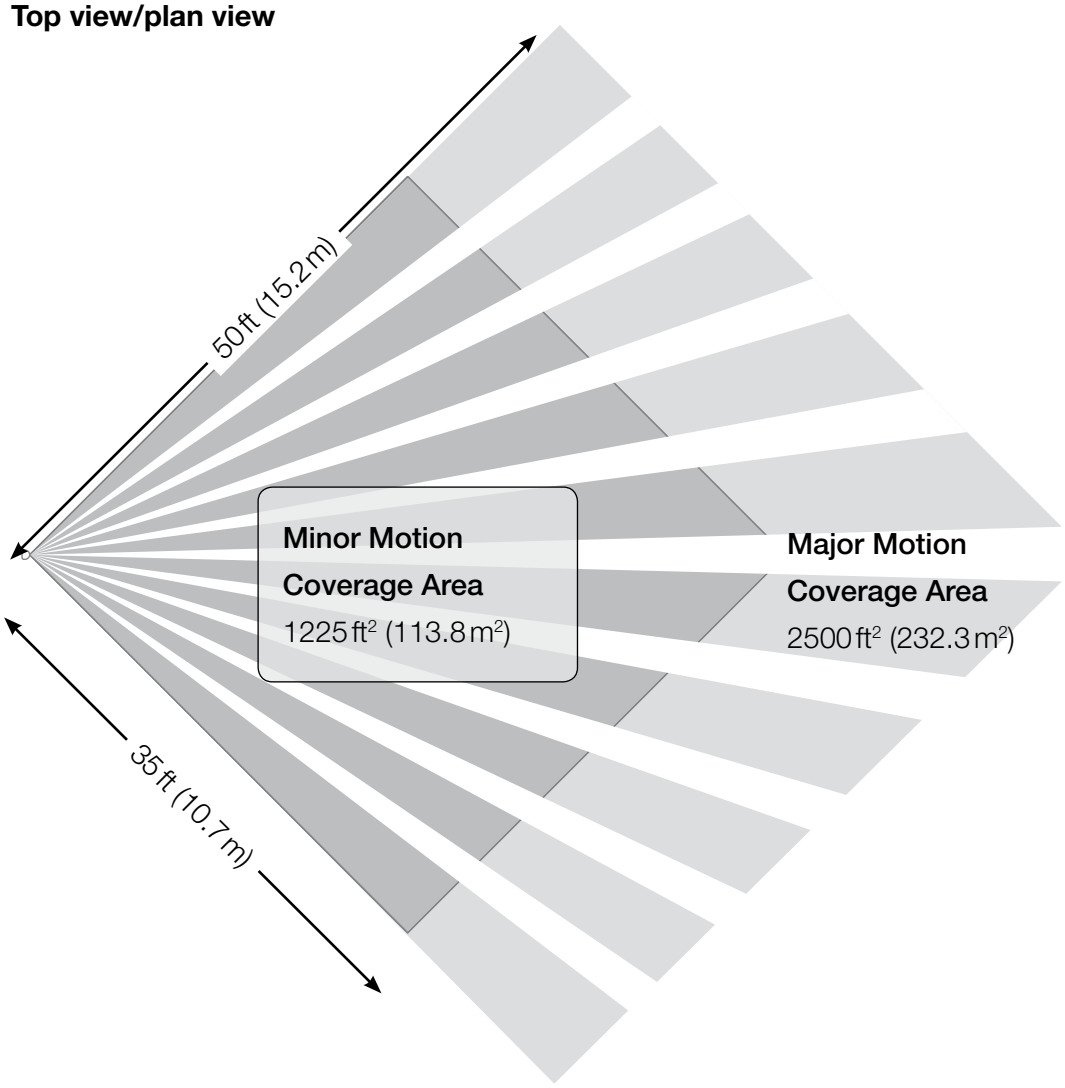
Side view/section



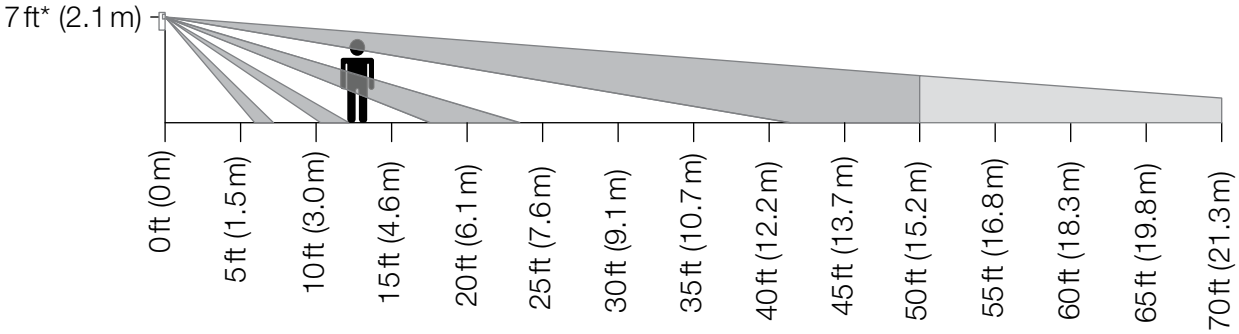
*Sensor mounting shown at 7 ft (2.1 m), mounting height should be between 6 ft and 8 ft (1.6 - 2.4 m).

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

Top view/plan view



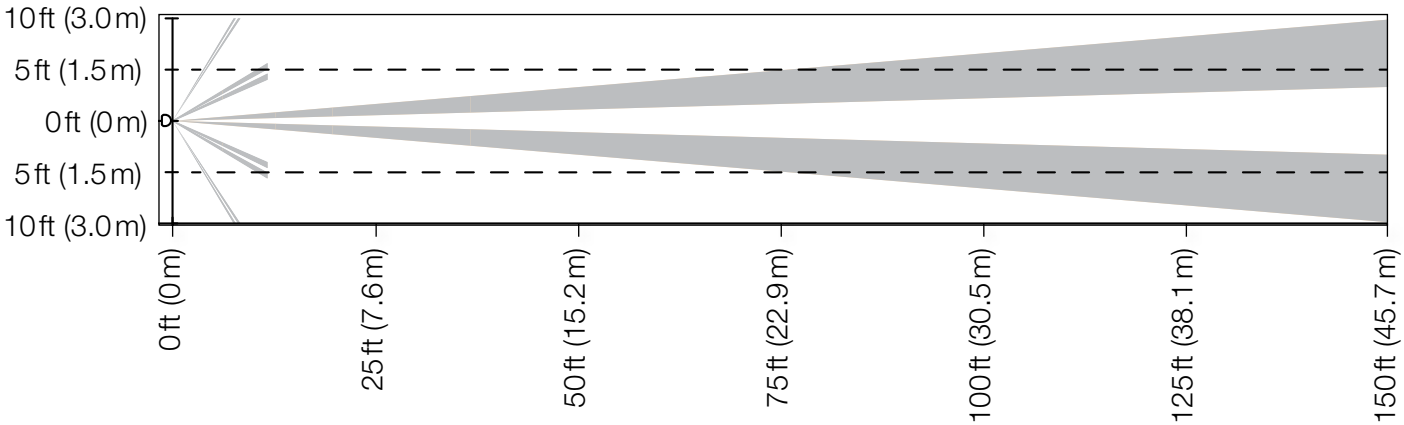
Side view/section



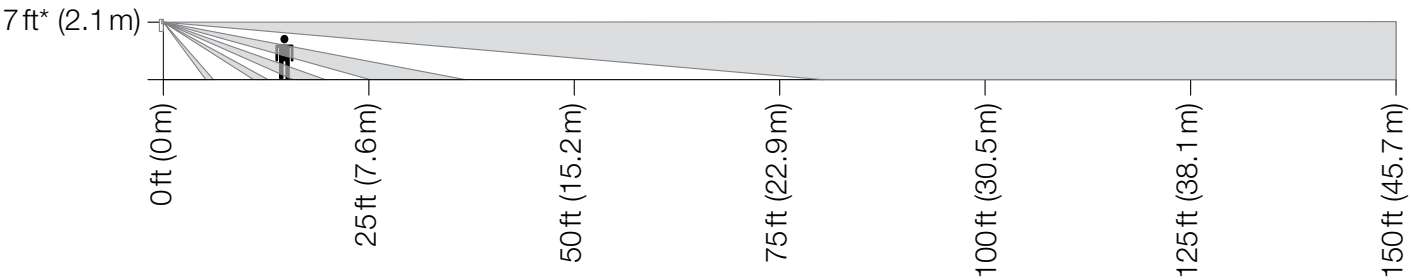
*Sensor mounting shown at 7 ft (2.1 m), mounting height should be between 6 ft and 8 ft (1.6 - 2.4 m).

Hallway sensor coverage

Top view/plan view



Side view/section



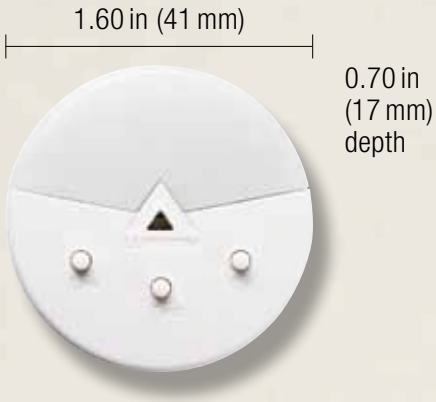
Hallway version with coverage of up to 150 ft (45.7 m)

Maximum recommended hallway length

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



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

Features and capacities

- Simple installation with no wiring
- Detects light level and relays information back to compatible wireless device
- Daylight harvesting automatically dims/switches off the lights when sufficient daylight is available and brightens/turns on the lights when the available daylight is low
- Proportional open loop system allows the signal to vary during the course of the day
- Suitable for use with light levels up to 10,000 foot-candles (fc)
- A maximum of one sensor may be assigned to each preset lighting zone
- Available in White (WH)
- For indoor use, temperature: 32°F-104°F (0°C-40°C)
- Battery included; 10-year battery life design

Dimensions and mounting

- Diameter: 1.60 in (41 mm); Depth: 0.70 in (17 mm)
- Mount within 60 ft (18 m) line-of-sight or 30 ft (9.1 m) through walls of the receiving devices
- Built-in test-mode and temporary mounting hardware (included) allows for optimum sensor placement and coverage

Communication

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to a GRAFIK Eye® QS wireless main unit or QS sensor module in a Quantum® system
- Operates at 434 MHz, 434 limited channel MHz, 865 MHz, 868 MHz or 868 limited channel MHz band
- Each QS sensor module can communicate with up to ten wireless daylight sensors; each Radio Powr Savr daylight sensor counts as one wireless daylight sensor toward the limit
- Each GRAFIK Eye QS main unit can communicate with up to thirty wireless devices; each RadioPowr Savr daylight sensor counts as one wireless device toward the limit
- Each QS link on a Quantum processor can have up to 100 daylight sensors; each Radio Powr Savr™ daylight sensor counts as one daylight sensor toward the limit

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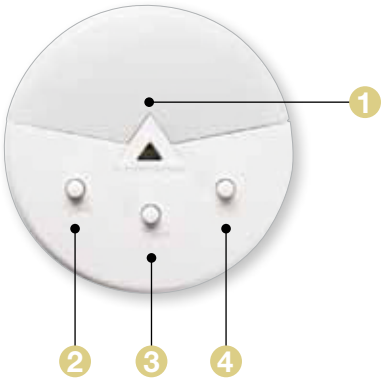
Radio Powr Savr™ ceiling-mount daylight sensor

Explanation of features



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)	
Daylight	LRF2-DCRB-WH
Ceiling-mount (868 MHz)	
Daylight	LRF3-DCRB-WH
Ceiling-mount (868 limited channel MHz)	
Daylight	LRF4-DCRB-WH
Ceiling-mount (865 MHz)	
Daylight	LRF5-DCRB-WH
Ceiling-mount (434 limited channel MHz)	
Daylight	LRF7-DCRB-WH

Compatible with the Quantum® system.

For specific radio frequency information by country, refer to radio frequency chart on pg. 695.

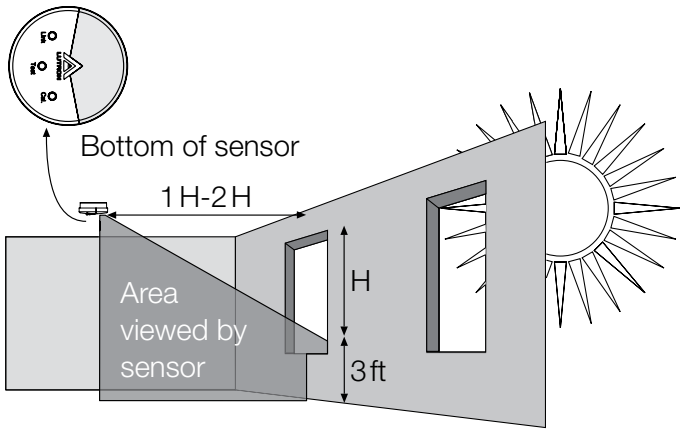
Sensor placement

Determine the daylight sensor mounting location using the diagram below:

- Place the daylight sensor so the viewing area is centered on the nearest window at a distance from the window of one to two times the effective window height (H)
- The effective window height (H) starts at the window sill or 3 ft (1 m) up from the floor, whichever is higher, and ends at the top of the window
- Do not position the daylight sensor in the well of a skylight or above indirect lighting fixtures
- For narrow areas where the daylight sensor cannot be placed 1 H-2 H from windows, place sensor near windows facing into space

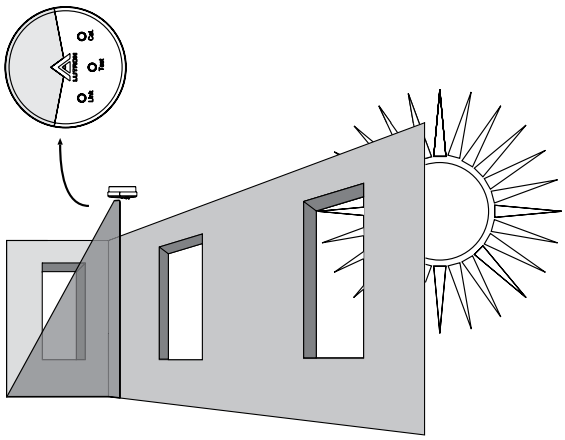
Location for average size areas

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



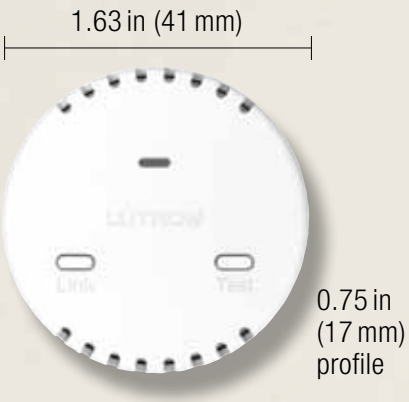
Location for narrow areas (corridors, private offices)

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)

Features and capacities

- Detects temperature and transmits information to HVAC controller (required)
- Simple installation with no wiring
- Use up to four wireless temperature sensors per HVAC controller (temperatures are averaged)
- Battery included; 5-year battery life
- Available in Snow (SW) or Midnight (MN)

Dimensions and mounting

- Width: 1.63 in (41 mm)
  Profile: 0.75 in (17 mm)
- Temporary attachment method: 3M® command strip
- Permanent attachment: wall anchor and screw
- Surface mount to wall in space to be conditioned

Communication and wiring

- Communicates via Lutron reliable Clear Connect® Radio Frequency (RF) technology to other Lutron wireless devices
- Wireless temperature sensor must be located within 30 ft (9 m) of a hybrid repeater
- Operates at 434 MHz
- Up to four wireless temperature sensors can be used with a single HVAC controller and up to five temperature sensors per QS link
- HomeWorks QS system can have up to 99 devices per RF link

Related components

seeTemp® wall control (available separately, see pg. 415)

HVAC controller (available separately, see pg. 506)

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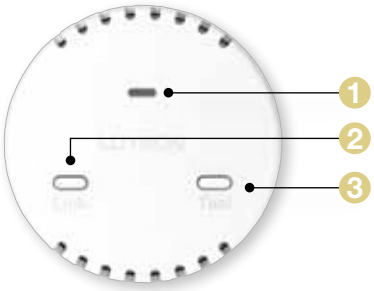
Wall-mount temperature sensor

Explanation of features



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

SW
Snow

MN
Midnight

Model numbers

Temperature sensor

Wall-mount

Wireless, 434 MHz	LRF2-TWRB-**XX**[1]

Compatible with the HomeWorks® QS system.

XX[1]**:** Available in Snow (SW) and Midnight (MN)

Radio Shadow sensor

Shown actual size:
Radio Shadow sensor
(LRF2-SSW-WH)

Features and capacities

- Enhances the performance of Hyperion solar-adaptive shading systems by maximizing available views and occupant comfort when shadows are cast on buildings, or when cloudy conditions prevail
- Works at the window level to communicate current exterior conditions to the Quantum system, enabling Hyperion to respond appropriately
- Simple installation with no wiring required
- Suitable for use with light levels up to 10,000 foot-candles (fc)
- Available in White (WH)
- For indoor use, temperature: 32° F-122° F (0° C-50° C)
- Battery included; 10-year battery life design

Dimensions and mounting

- Diameter: 1.60 in (41 mm)
  Depth: 0.70 in (17 mm);
- Mount on window within 60 ft (18 m) line-of-sight or 30 ft (9.1 m) through walls of the QS sensor module

Communication

- Communicates via Lutron® reliable Clear Connect® Radio Frequency (RF) technology to a QS sensor module
- Operates at 434 MHz
- QS sensor module can communicate with up to 10 daylight sensors; each Radio Shadow sensor counts as one daylight sensor toward the limit
- Each QS link on a Quantum processor can have up to 100 daylight sensors; each Radio Shadow sensor counts as one daylight sensor toward the limit

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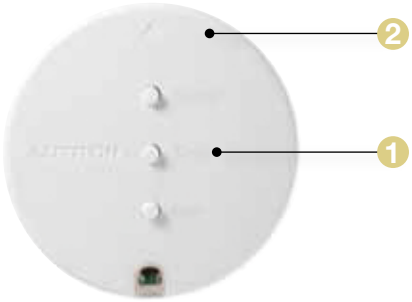
Explanation of features



Radio Shadow Sensor

0.7 in
(17 mm)

Feature	
1 Programming buttons	• Front accessible buttons make set-up easy
2 Arrow	• When mounting ensure that the arrow points up

Model numbers

Radio Shadow sensor

434 MHz	LRF2-SSW-WH

Compatible with the Quantum® system.

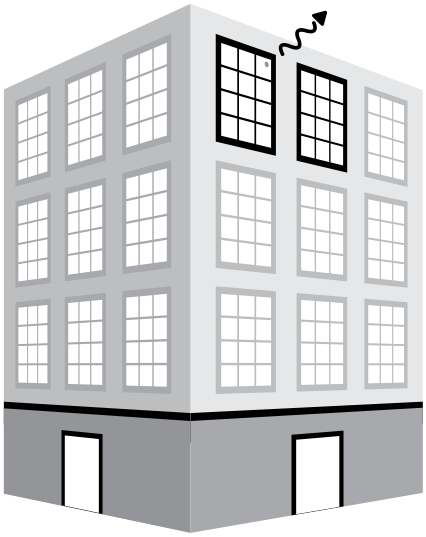
Sensor placement

Determine the sensor mounting location using the information below

- The arrow on the Radio Shadow sensor should point up
- Ensure that the exterior view of the sensor is not obstructed
- Do not position the sensor on the skylight or above indirect lighting fixtures
- Mount sensor at least 6 in (15 cm) away from large metal surfaces; metal objects will affect the wireless communication
- Flush mount to window glass near top of window

One sensor per Shade Group/Area

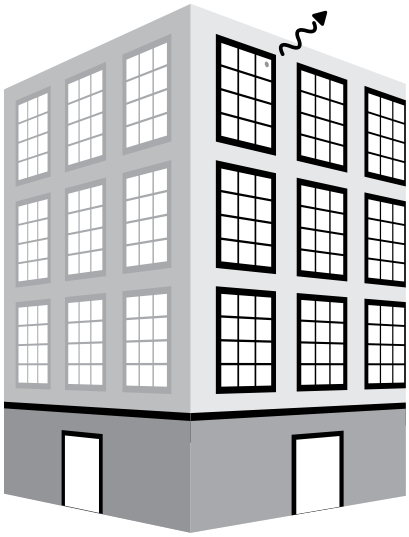
(Recommended for granular shadow detection and cloudy day detection)



Exterior View

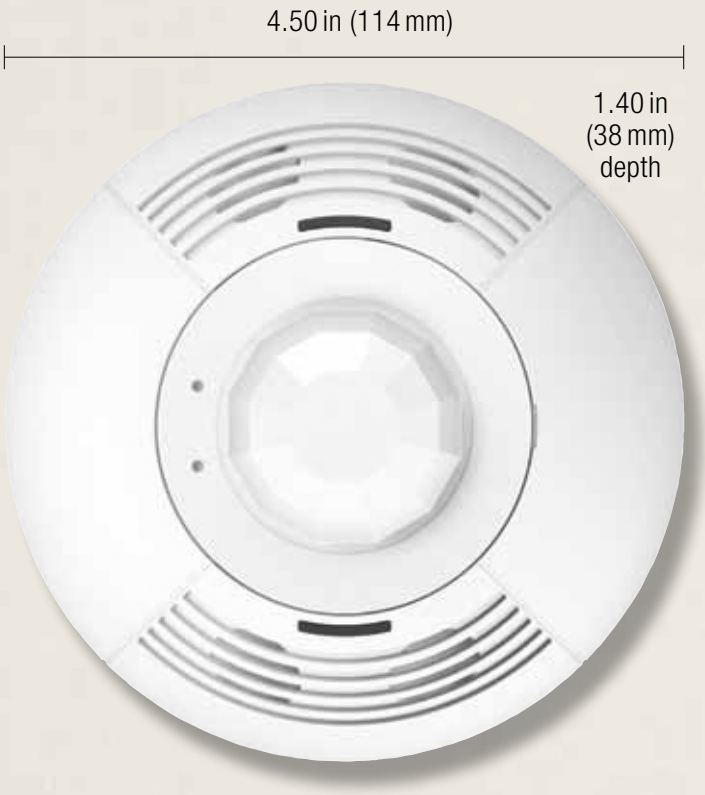
One sensor per Facade

(Recommended for cloudy day detection)



Exterior View

LOS-C series ceiling-mount occupancy sensor



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

Features and capacities

- Sensors can integrate into Lutron system or function as stand-alone control using wired power pack
- Affords choice of turning lights off or dimming to preset level in unoccupied state when integrated into Lutron system
- Models available in ultrasonic, passive infrared, or dual technology
- Dual technology sensors are self-adaptive to automatically adjust sensitivity and timing
- Coverages available from 450 ft² - 2000 ft² (137 m² - 610 m²) mounted at 8 - 12 ft (2.4 m - 3.6 m) from floor
- 360° and 180° field-of-view models available
- Models available with an additional dry contact closure output
- Available in White (WH)
- For indoor use only, temperature: 32 °F - 104 °F (0 °C - 40 °C)

Dimensions and mounting

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

Communication and wiring

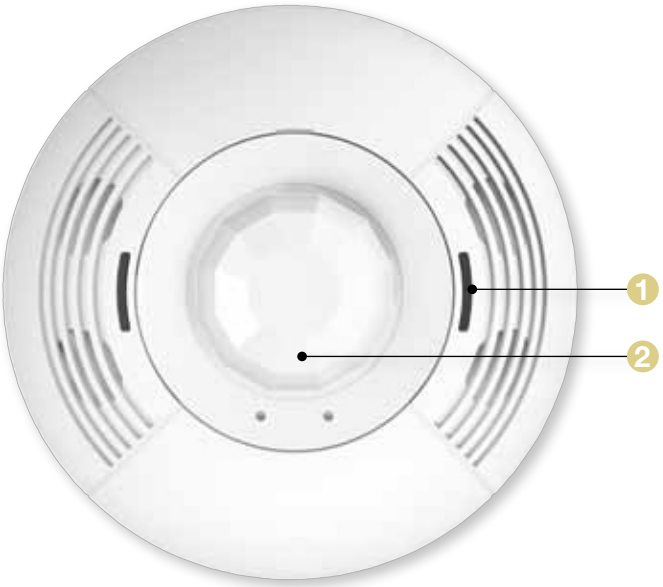
- 20-24 V DC
- Connects to system via low-voltage IEC PELV/NEC Class 2 wiring through contact closure inputs or directly to an EcoSystem® ballast or module (with sensor inputs), QS sensor module, Energi Savr Node™ module, or GRAFIK Eye® QS main unit
- Uses two power draw units on the QS link when connected to the QS sensor module; power draw calculations are not needed for inputs connected directly to the Energi Savr Node module, GRAFIK Eye QS main unit, or EcoSystem ballast/module
- Each QS link on a Quantum processor can have up to 100 occupancy sensors; each LOS-C series occupancy sensor counts as one occupancy sensor toward the limit
- 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

Download specification submittal for
Ceiling-mount passive infrared occupancy sensor

Download specification submittal for
Ceiling-mount dual technology occupancy sensor

Download specification submittal for
Ceiling-mount ultrasonic occupancy sensor

Explanation of features

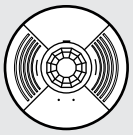


Ceiling-mount dual technology sensor

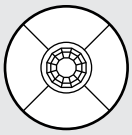
Features	
1 Green LED	• Indicates when ultrasonic motion is detected
2 Red LED	• Indicates when infrared (IR) is detected

LOS-C series ceiling-mount occupancy sensor

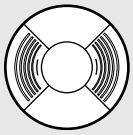
Available models



Dual technology occupancy



Passive infrared 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 ft² (152 m²) 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 ft² (137 m²), 360°	LOS-CIR-450-WH

Compatible with LCP128™, Softswitch® 128 (XPS), GRAFIK Eye® 4000, Quantum® and HomeWorks QS systems

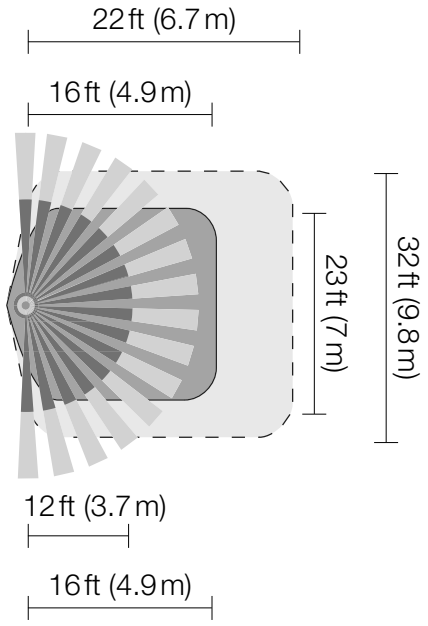
Dual technology sensor coverage chart

LOS-CDT models (3 models available)

Top view/Plan view

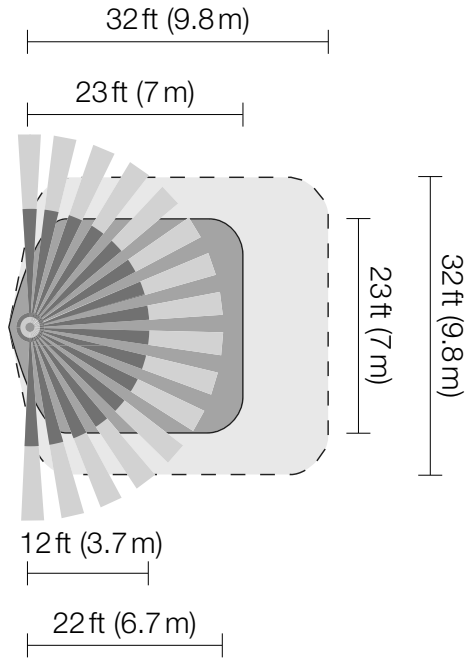
500 ft² (152 m²) coverage

(LOS-CDT-500)



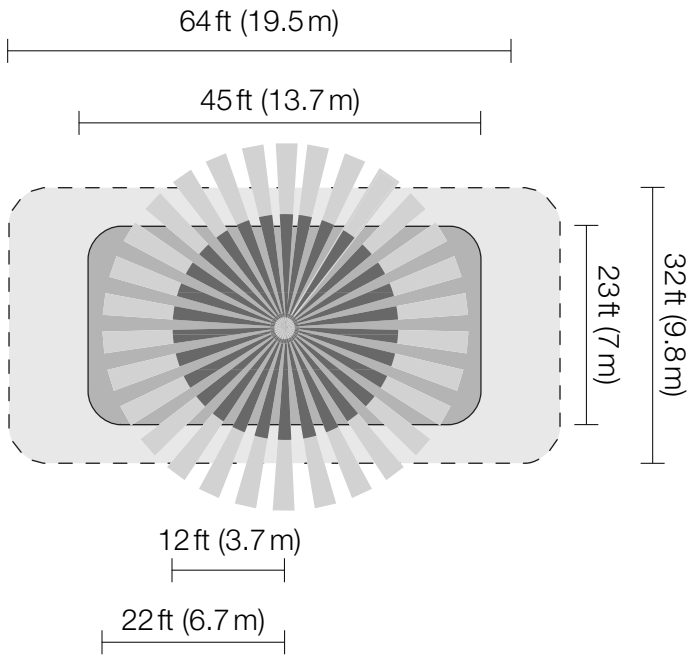
1000 ft² (305 m²) coverage

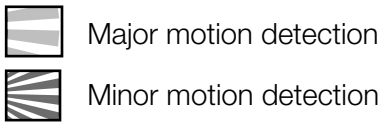
(LOS-CDT-1000)



2000 ft² (610 m²) coverage

(LOS-CDT-2000)



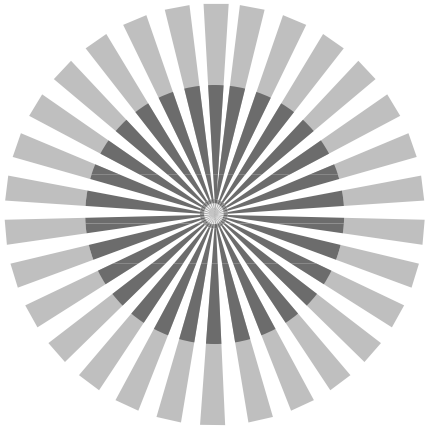


Passive infrared sensor coverage chart

LOS-CIR models (2 models available)

Top view/Plan view

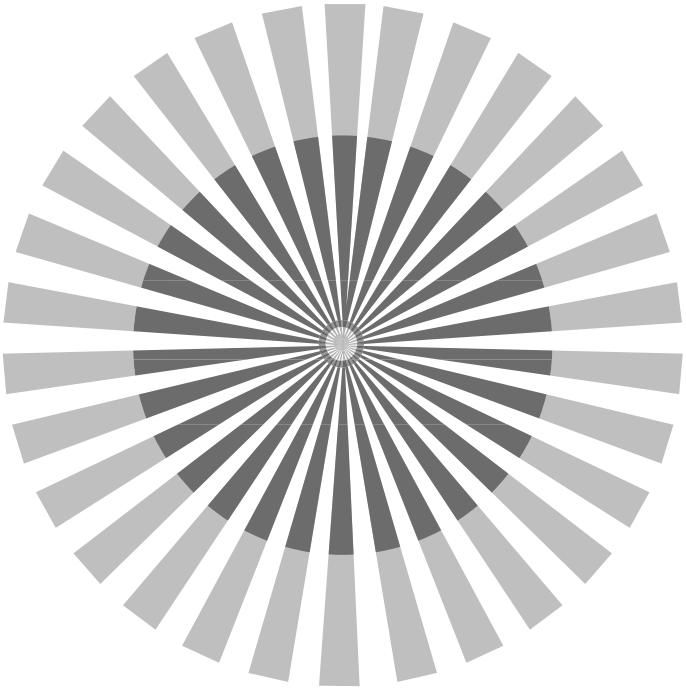
450 ft² (137 m²) coverage
(LOS-CIR-450)



6.5 ft (1.9 m)

12 ft (3.7 m)

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



12 ft (3.7 m)

22 ft (6.7 m)

Major motion detection

Minor motion detection

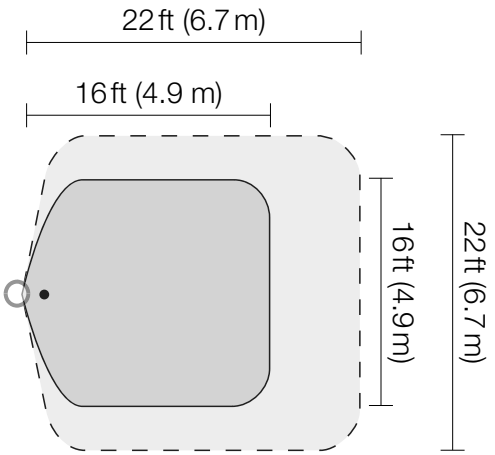
Ultrasonic sensor coverage chart

LOS-CUS models (3 models available)

Top view/Plan view

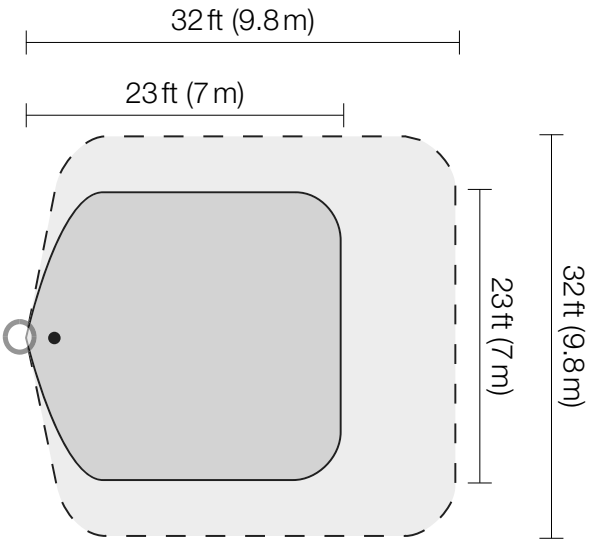
500 ft² (152 m²) coverage

(LOS-CUS-500)



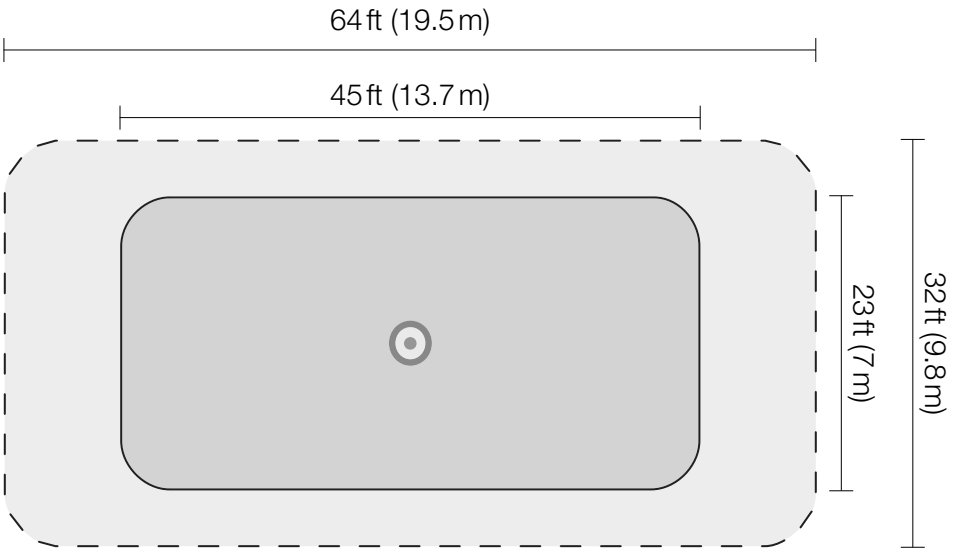
1000 ft² (305 m²) coverage

(LOS-CUS-1000)



2000 ft² (610 m²) coverage

(LOS-CUS-2000)



Major motion detection

Minor motion detection

LOS-W series wall-mount occupancy sensor

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

Features and capacities

- Sensors can integrate into Lutron system or by using a wired power pack can function as a stand-alone control
- Affords choice of turning lights off or dimming to preset level in unoccupied state when integrated to Lutron system
- Models available with an additional dry contact closure output
- Dual-technology sensors are self-adaptive to automatically adjust sensitivity and timing
- Coverage of 1600 ft² (488 m²) mounted at 8 ft to 12 ft (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)

Dimensions and mounting

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

Communication and wiring

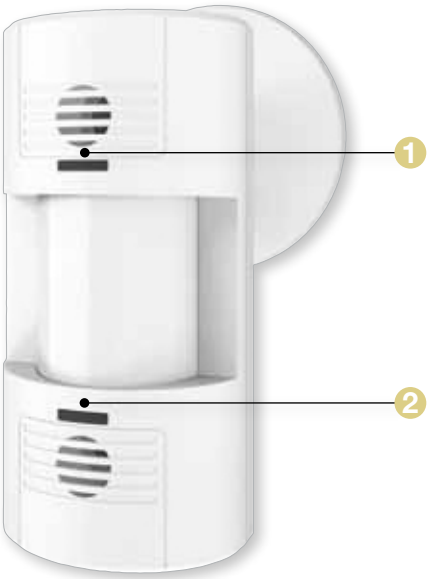
- 20-24 V DC
- Connects to system via low-voltage IEC PELV/NEC Class 2 wiring through contact closure inputs or directly to an EcoSystem® ballast or module (with sensor inputs), QS sensor module, Energi Savr Node™ module, or GRAFIK Eye® QS main unit
- Uses two power draw units on the QS link when connected to the QS sensor module; power draw calculations are not needed for inputs connected directly to the Energi Savr Node module, GRAFIK Eye QS main unit, or EcoSystem ballast/module
- Each QS link on a Quantum processor can have up to 100 occupancy sensors; each LOS-W series occupancy sensor counts as one occupancy sensor toward the limit
- 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

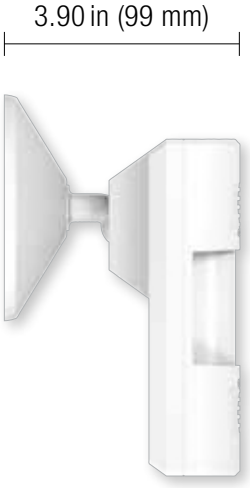
Download specification submittal for
Wall-mount passive infrared occupancy sensor

Download specification submittal for
Wall-mount dual technology occupancy sensor

LOS-W series wall-mount occupancy sensor

Explanation of features





Wall-mount dual technology sensor

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

Available models

Passive infrared occupancy

Dual technology, self-adaptive occupancy

Model numbers

Wired wall-mount occupancy sensor

Dual technology	
1,600 ft² (488 m²), 110°	LOS-WDT-WH
Additional contact closure	LOS-WDT-R-WH

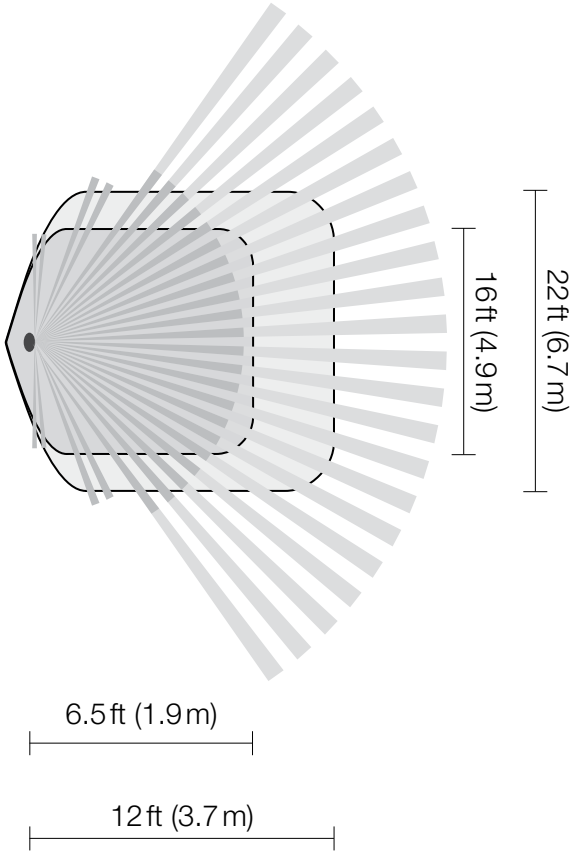
Passive infrared	
1,600 ft² (488 m²)	LOS-WIR-WH

Compatible with LCP128™, Softswitch® 128 (XPS), GRAFIK Eye® 4000, Quantum®, and HomeWorks QS systems

Dual technology sensor coverage chart

Top view/Plan view

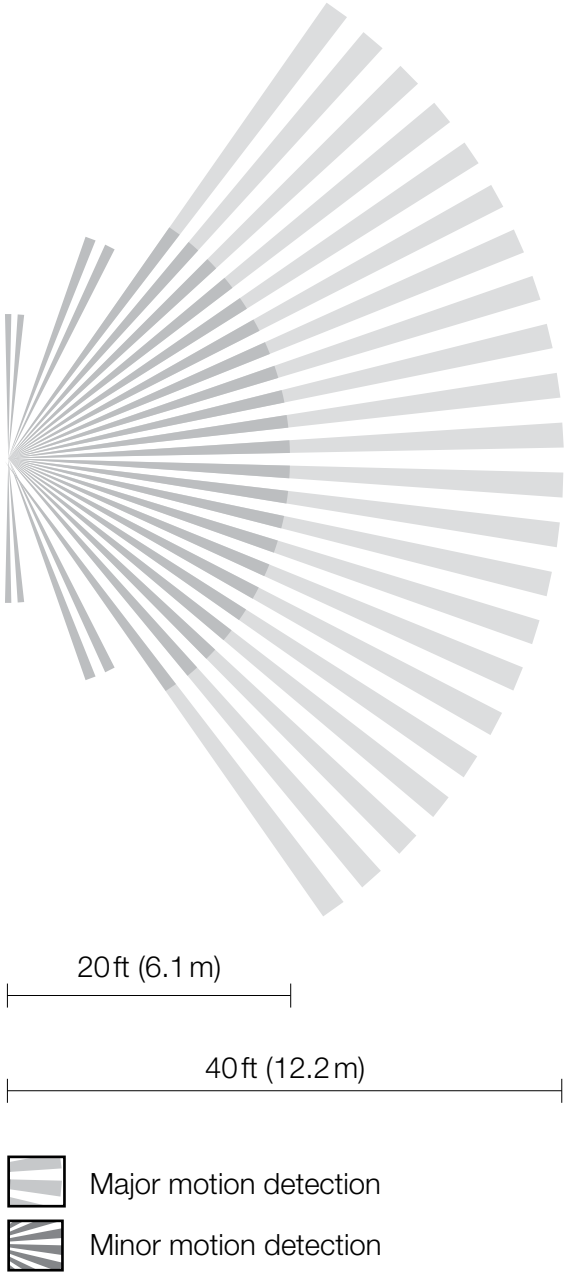
(LOS-WDT)



Passive infrared sensor coverage chart

Top view/Plan view

(LOS-WIR)



High-bay occupancy sensor

Shown above: 360° surface-mount high-bay occupancy sensor (LUT-WSPSM24V-180-CPN6112)

Features and capacities

- Passive infrared sensor designed for use in high-bay applications, such as warehouses, distribution centers and gymnasiums
- Sensors can integrate into Lutron system or by using a wired power pack can function as a stand-alone control
- Surface-mount and end-mount models available with either 180° or 360° area lens
- Mounted at 45 ft (14 m) from floor the 180° models feature 50 ft (15 m) coverage radius and the 360° models feature 1,450 ft^2 (135 m^2) coverage
- Time-out options include 4, 8, 16 and 30 minutes
- Available in White (WH)
- For indoor use, temperature: 32° F-149° F (0° C-65° C)

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Dimensions and mounting

- 180° and 360° surface-mount:
  Diameter: 4.00 in (102 mm)
  Depth: 1.50 in (38 mm)
- 180° end-mount:
  Width 4.00 in (102 mm)
  Height: 4.50 in (114 mm)
  Depth: 1.50 in (38 mm)
- 360° end-mount:
  Width 3.60 in (91 mm)
  Height: 4.40 in (112 mm)
  Depth: 2.00 in (51 mm)
- Surface-mount models mount directly to fixture or to a standard 4.00 in (102 mm) x 4.00 in (102 mm) junction box via two 1.25 in (32 mm) stainless steel screws and locking nuts
- End-mount models mount directly to end of fixture through extended 0.5 in (13 mm) chase nipple
- Maximum mounting height is 45 ft (14 m)

Communication

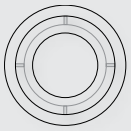
- 20-24 V DC
- Connects to system via low-voltage IEC PELV/ NEC Class 2 wiring through contact closure inputs or directly to an Ecosystem ballast/module (with sensor inputs), QS sensors module, Energi Savr Node module, or GRAFIK Eye QS main unit
- Uses two power draw units on the QS link when connected 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
- Each QS link on a Quantum processor can have up to 100 occupancy sensors; each high-bay occupancy sensor counts as one occupancy sensor toward the limit
- 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

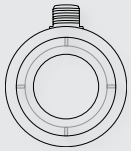
360° end-mount high-bay occupancy sensor

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

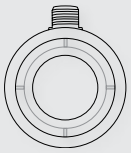
Available models



180° and 360° surface-mount



180° end-mount



360° end-mount

Model numbers

Wireless occupancy/vacancy sensors

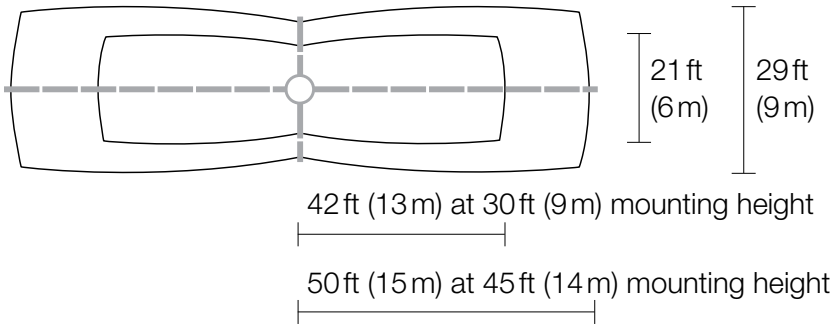
Wired high-bay occupancy sensor

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 LCP128, Softswitch 128 (XPS), GRAFIK Eye 4000 and Quantum systems

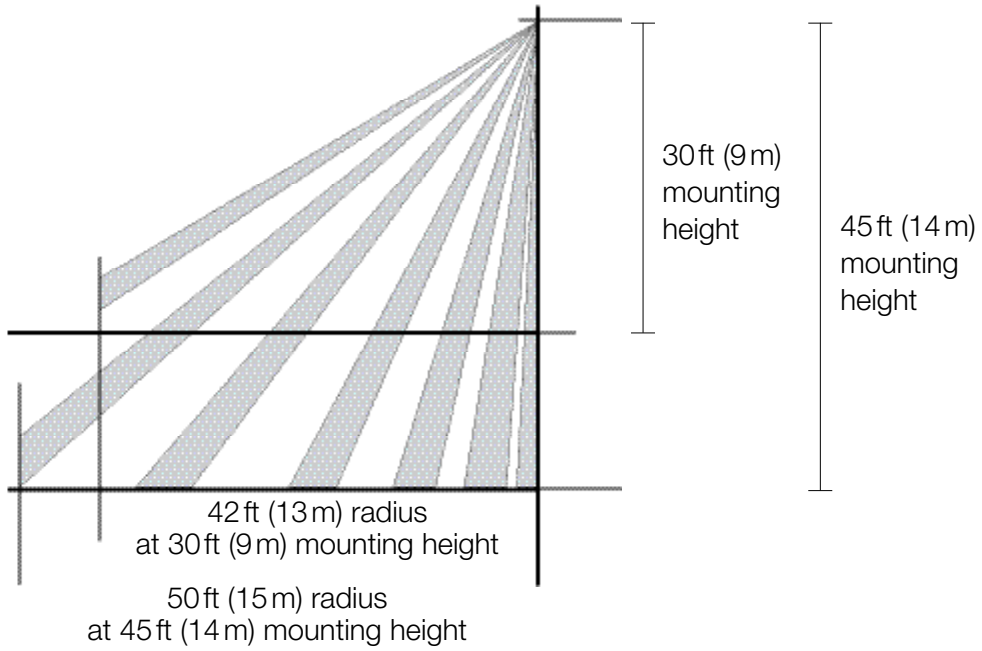
180º high-bay sensor coverage chart

Top view/Plan view



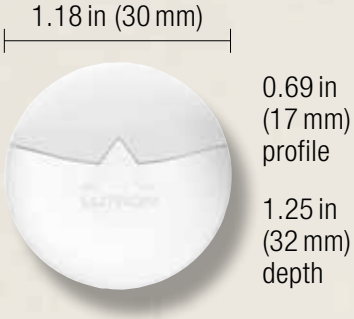
360º high-bay sensor coverage chart

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

Photosensor



Shown actual size:
Wired photosensor
(MW-FPS-WH)

Features and capacities

- Monitors ambient daylight levels and communicates information to daylight controller (required)
- Allows controller to automatically select scenes based on the amount of daylight available
- Phototopic response matches human eye
- For indoor use, temperature: 32° F-113° F (0° C-45° C)
- Available in White (WH)

Dimensions and mounting

- Diameter: 1.18 in (30 mm)
  Depth: 1.25 in (32 mm);
  Profile: 0.69 in (17 mm)
- Optional sensor post allows sensor to be extended from any ceiling for a length up to 36 in
- Mount to ceiling or fixture with 0.375 in (10 mm) diameter hole

Communication and wiring

- Designed to connect to daylight controller via IEC PELV/NEC Class 2 low-voltage wire
- Total wire length from sensor to device must not exceed 100 ft (30 m)
- 15 V DC

Related Component

Daylight controller
(sold separately, see pg. 484)

Model numbers

Wired photosensor	
Ceiling/fixture-mount	MW-FPS-WH

Compatible with the GRAFIK Eye® 4000 system.

Download specification submittal

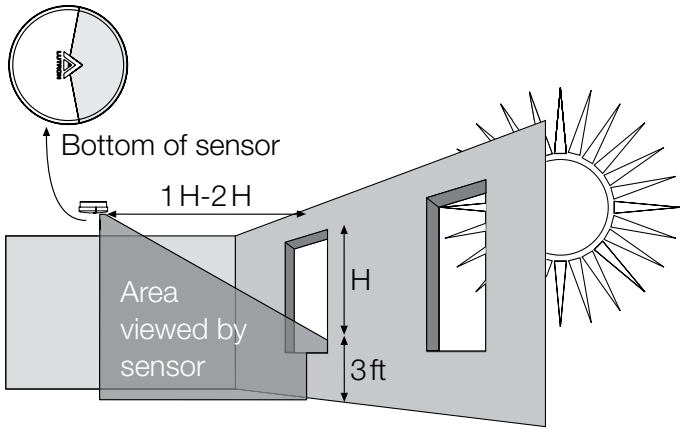
Sensor placement

Determine the photosensor mounting location using the diagram below

- Place the photosensor so the viewing area is centered on the nearest window at a distance from the window of one to two times the effective window height (H)
- The effective window height (H) starts at the window sill or 3 ft (1 m) up from the floor, whichever is higher, and ends at the top of the window
- Do not position the photosensor 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 photosensor near windows facing into space

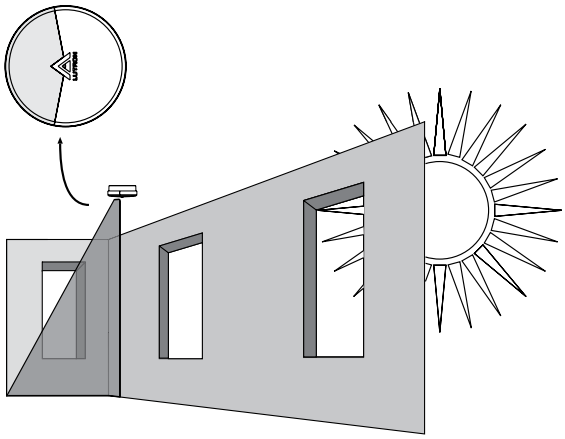
Location for average size areas

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



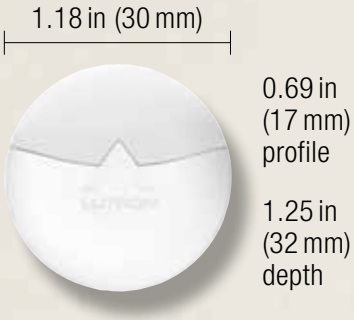
Location for narrow areas (corridors, private offices)

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



H = Effective Window Height

Daylight sensor



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

Features and capacities

- Automatically dims the lights when the available daylight is sufficient and brightens the lights when the available daylight is low in order to maintain a specific light level
- Designed to give a linear response to changes in viewed light level
- Photopic response matches human eye
- Suitable for internal ambient light levels between 0 and 500 fc
- Acts as an IR receiver from handheld devices and transfers IR signals to a digital ballast, control module or sensor interface
- For indoor use, temperature: 32 °F-113 °F (0 °C-45 °C)
- Available in White (WH)

Dimensions and mounting

- Diameter: 1.18 in (30 mm)
  Depth: 1.25 in (32 mm);
  Profile: 0.69 in (17 mm)
- Optional sensor post allows sensor to be extended from any ceiling for a length up to 36 in
- Mount to ceiling or fixture with 0.375 in (10 mm) diameter hole

Communication and wiring

- 20 V DC
- Total wire length from sensor to device must not exceed 100 ft (30 m)
- Infrared (IR) receiver receives IR programming signals from up to 8 ft (2.5 m) away
- Designed to connect directly to an EcoSystem ballast or module (with sensor inputs), QS sensor module, or Energi Savr Node™ via low-voltage wiring
- Does not connect directly to the QS Link
- Each QS link on a Quantum processor can have up to 100 daylight sensors; each wired daylight sensor counts as one daylight sensor toward the limit
- 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

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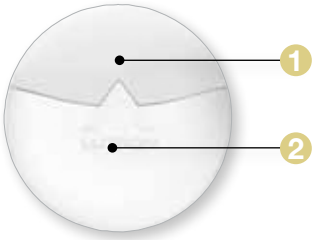
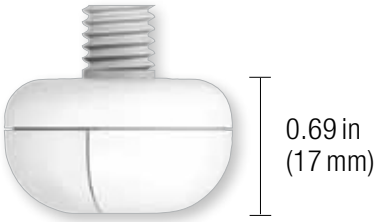
Explanation of features



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 the Quantum® system.

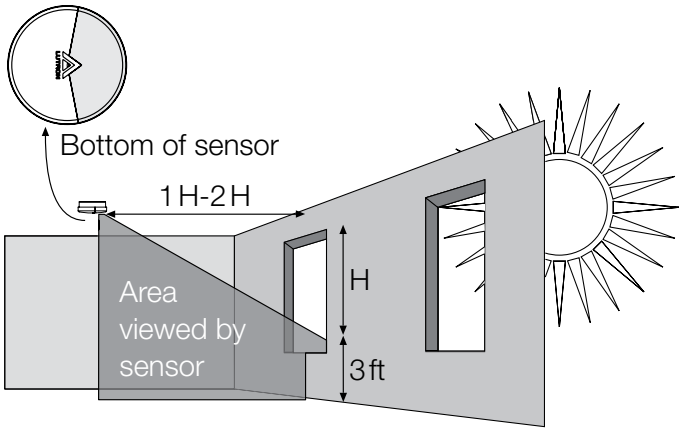
Sensor placement

Determine the daylight sensor mounting location using the diagram below

- Place the daylight sensor so the viewing area is centered on the nearest window at a distance from the window of one to two times the effective window height (H)
- The effective window height (H) starts at the window sill or 3 ft (1 m) up from the floor, whichever is higher, and ends at the top of the window
- Do not position the daylight sensor in the well of a skylight or above indirect lighting fixtures
- For narrow areas where the daylight sensor cannot be placed 1 H-2 H from windows, place sensor near windows facing into space

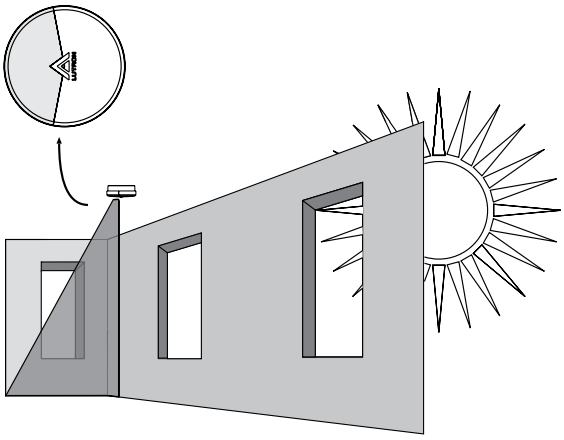
Location for average size areas

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



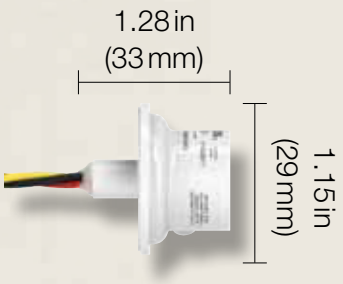
Location for narrow areas (corridors, private offices)

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

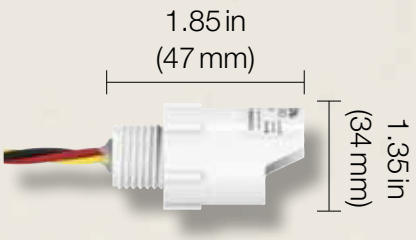


H = Effective Window Height

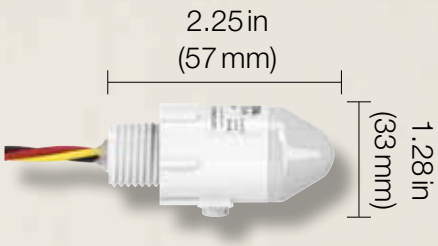
Daylight sensor packages



Shown above: Indoor sensor (GRX-CESI)



Shown above: Outdoor sensor (GRX-CESO)



Shown above: Atrium or skylight sensor (GRX-CESA/GRX-CESS)

Features and capacities

- Daylight sensor packages that allow Lutron lighting control systems to switch lights on/off in response to ambient daylight level settings in the controller
- Packages include a wired power pack, daylight sensor, and daylight controller
- Daylight controller features adjustable On and Off setpoints
- A variety of sensor packages are available to fit virtually any application:
  - indoor
  - outdoor
  - atrium
  - skylight
- Each sensor is calibrated during manufacturing to the light levels in its intended environment
- Operating temperature: 13° F-140° F (-11° C- 60° C).
- All sensors are water-resistant and designed to withstand UV radiation
- Daylight controller and wired power packs for indoor use only
- Available in white (WH)

Communication and wiring

- Daylight controller connects to system through contact closure inputs and to sensors directly via low-voltage IEC PELV/NEC Class 2 wiring
- When interfacing to a Lutron system, the normal close contact will turn lights on (contact closure close) when daylight levels are low, and turn lights off (contact closure open) when daylight levels are high
- Each QS link on a Quantum processor can have up to 100 daylight sensors; each sensor in a package counts as one daylight sensor toward the limit

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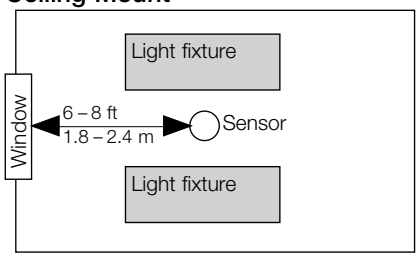
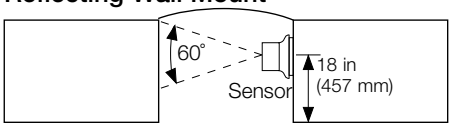
Daylight sensor packages

Dimensions and mounting

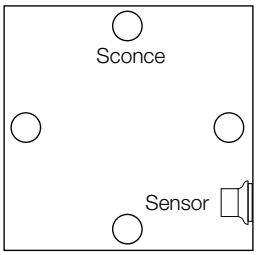
Ceiling Mount



Reflecting Wall Mount

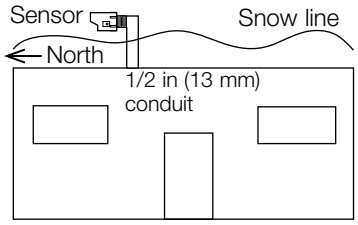


Sconce Wall Mount



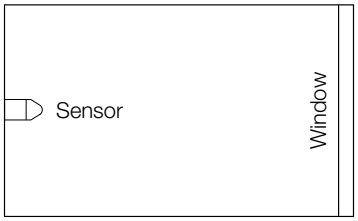
Indoor

- Width: 1.28 in (33 mm)
  Height: 1.15 in (29 mm)
- Mount in .38 in (10 mm) hole using the adhesive backing (included)
- Ceiling mount: 6 to 8 ft (2 m) from window, centrally located
- Reflected wall mount: Facing the reflecting wall, not in line with any indoor lighting
- Wall mount with sconces: Mount at same height as sconce, but not directly in line



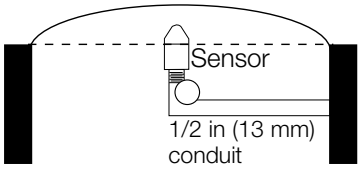
Outdoor

- Width: 1.85 in (47 mm)
  Height: 1.35 in (34 mm)
- Mount in standard .50 in (13 mm) conduit or knockout
- Mount horizontally, facing north, with the hooded portion on top



Atrium

- Width: 2.25 in (57 mm)
  Height: 1.28 in (33 mm)
- Mount in standard 0.50 in (13 mm) conduit or knockout, opposite the atrium window



Skylight

- Width: 2.25 in (57 mm)
  Height: 1.28 in (33 mm)
- Mount in standard 0.50 in (13 mm) conduit or knockout, near the center of the skylight well, at least 12 in (305 mm) from the sides
- Mount vertically, facing up, with top of sensor level with top of skylight curb

Daylight sensor packages

Available models

Outdoor sensor

Indoor sensor

Skylight sensor

Atrium sensor

Model numbers

Daylight sensor packages

Indoor package**	
120V	GRX-CESI-120 PKG
277V	GRX-CESI-277 PKG

Outdoor package**	
120V	GRX-CESO-120 PKG
277V	GRX-CESO-277 PKG

Atrium package**	
120V	GRX-CESA-120 PKG
277V	GRX-CESA-277 PKG

Skylight package**	
120V	GRX-CESS-120 PKG
277V	GRX-CESS-277 PKG

Compatible with LCP 128™, Softswitch128® (XPS), GRAFIK Eye® 4000 and Quantum® systems

* All packages include a wired power pack, daylight sensor and daylight controller.

** Daylight sensors, daylight controller and wired power pack are also available as individual items, please contact Lutron for more information.

For specific voltage by country information refer to voltage chart on pg. 695.

Infrared partition status sensor

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

Features and capacities

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

Dimensions and mounting

- Width: 4.56 in (159 mm)
  Height: 2.69 in (68 mm)
  Depth: 1.50 in (38 mm)
- Receiver and transmitter surface-mount in standard 1-gang U.S. wallboxes, 3.50 in (89 mm) deep, mounted face down from the ceiling
- The sensors must be mounted in a position where the partition separates the transmitter and receiver when the partition is closed
- Transmitter and receiver may be located no more than 8 ft (243 mm) apart
- Adjustable mounting brackets allow easy alignment during installation

Communication and wiring

- 12-24 V DC from plug-in supply (P/N GRX-12 V DC, sold separately)
- Connects to system via IEC PELV/NEC Class 2 low-voltage wiring through contact closure inputs

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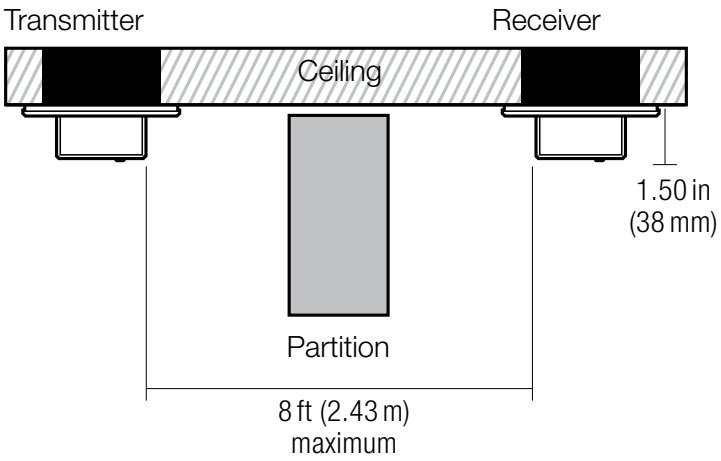
GRX-IRPS-WH (pair of sensors)



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® 4000 and Quantum® systems

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

Features and capacities

- Provide both the 24 V power supply to operate Lutron® sensors as well as the 20 A line voltage relay to control the load in one compact housing
- Models available for 120 V AC, 230 V AC (CE), 277 V AC, and 347 V AC
- Relay contact rating:
  20 A: 120/230/277 V ballast
  15 A: 347 V ballast
  15 A: 120 V incandescent
- Auxiliary relay allows for direct control of multiple lighting circuits or load types; draws power from another power pack and takes its control signal from the occupancy sensors
- Supports up to three Lutron LOS-C or LOS-W series wired sensors and/or auxiliary relay

Dimensions and mounting

- Width: 3.69 in (94 mm)
  Height: 2.33 in (59 mm)
  Depth: 1.36 in (35 mm)
- Unit can be placed outside or inside the junction box with a simple nut-twist

Communication and wiring

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

Model numbers

Power packs

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

Compatible with LCP128™, Softswitch® 128 (XPS), GRAFIK Eye® 4000 and Quantum® systems

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Control interfaces

Control interfaces typically provide integration between Lutron lighting 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 by country on page 692.

Control interfaces allow integration with:

- Touch screens
- Projection screens
- Time clocks
- Emergency lighting interfaces
- HVAC Equipment

Whole building control interfaces

Wallbox contact closure input interface
pg. 471

RS232 interface
pg. 477

Contact closure output interface
pg. 472

Time clock/ programming interface
pg. 479

Contact closure input/output interface
pg. 473

DMX512 output interface
pg. 481

Ethernet interface
pg. 475

DMX512 input interface
pg. 482

Wired communication

Infrared interface
pg. 483

QS contact closure input/ output interface
pg. 492

QS motor group controller
pg. 500

Daylight controller
pg. 484

QS RS232/ Ethernet interface
pg. 494

Energy meter
pg. 501

AC motor group controller
pg. 487

QS DMX512 output control interface
pg. 496

Emergency lighting interface
pg. 502

Sivoia QED® controller
pg. 488

QS sensor module (QSM)
pg. 498

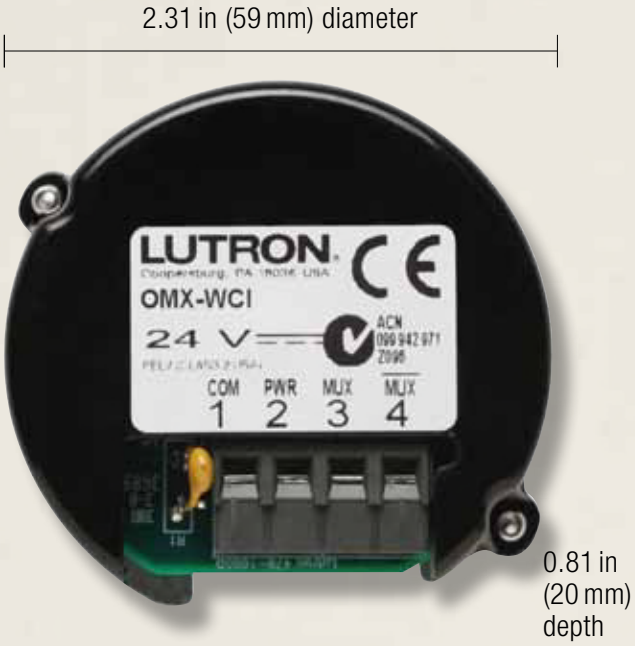
Data link repeater
pg. 504

Whole home control interfaces

HVAC controller
pg. 505

HomeWorks QS visor control receiver
pg. 508

Wireless communication



Shown above: Wallbox contact closure input interface (OMX-WCI)

Features and capacities

- Provides seven contact closure inputs
- Interfaces with 3rd party low-voltage switches to provide an alternative aesthetic to available Lutron keypad styles
- Control inputs can be set-up to simulate existing keypad functionality
- CE rated
- OMX model operates at 24 V DC; GRX model operates at 12/24 V DC

Dimensions and mounting

- Diameter: 2.31 in (59 mm)
  Depth: 0.81 in (20 mm)
- Mounts behind third-party low-voltage switch in backbox; recommended backbox depth is 2.40 in (61 mm)

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- OMX model—counts as one control interface on OMX link; can be up to 32 keypads/wallstations and/or control interfaces
- GRX model—GRAFIK Eye 4000 can have up to 16 keypads/wall stations and/or control interfaces; each wallbox contact closure input interface counts as one control interface

Model numbers

OMX interface

Wallbox contact closure input	OMX-WCI
Compatible with LCP128™ and Softswitch128® (XPS) systems	

GRX interface

Wallbox contact closure input	GRX-WCI
Compatible with the GRAFIK Eye® 4000 system	

Download specification submittal for OMX
Download specification submittal for GRX

Shown above: GRX contact closure output interface (GRX-CCO-8)

Model numbers

GRX interfaces

Contact closure output	GRX-CCO-8
Contact closure output (Japan)	GRX-CCO-8-JA

Compatible with the GRAFIK Eye 4000 system

OMX interfaces

Contact closure output interface	OMX-CCO-8
Contact closure output (Japan)	OMX-CCO-8-JA

Compatible with LCP128 and Softswitch128 (XPS) systems

Download specification submittal

Features and capacities

- Provides eight dry contact closure outputs
- Compatible with motorized projection screens, window treatments, and A/V equipment that have contact closure output
- Provides both normally open (NO) and normally closed (NC) contacts
- May be set to momentary or maintained outputs
- Manual override buttons allow the testing of the system
- OMX models operate at 24 V DC; GRX models operate at 12/24 V DC

Dimensions and mounting

- Width: 5.75 in (146 mm)
  Height: 10.75 in (273 mm)
  Depth: 2.00 in (50 mm)
- Surface mounted

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 wired communication to the main control unit and other system components
- OMX models - counts as one control interface on OMX link; can have up to 32 keypads/wall stations and/or control interfaces
- GRX models - GRAFIK Eye 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each contact closure output interface counts as one control interface

Shown above: Contact closure input/output interface (OMX-IO)

Features and capacities

- Provides five inputs and five dry contact closure outputs
- Compatible with motion/occupancy sensors, time clocks, 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)
- OMX model operates at 24 V DC; GRX model operates at 12/24 V DC

Dimensions and mounting

- Width: 4.26 in (108 mm)
  Height: 5.26 in (134 mm)
  Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an A/V rack, or in an enclosure if conduit is desired
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

Related components

Rack unit
(available separately,
see pg. 660)

Enclosure
(available separately,
see pg. 659)

Download specification submittal for OMX
Download specification submittal for GRX

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to main control unit and other system components
- OMX model - counts as one control interface on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX model - GRAFIK Eye 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each contact closure input/output interface counts as control interface

Functionality and operating modes

- Using the inputs, contact closures in other equipment can operate compatible primary controls to (dependent on system):
  - Select scenes
  - Adjust scenes to reflect status of movable walls (partitioning)
  - Turn lights on or off based on room occupancy
  - Perform special functions such as panic, control lockout 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

Model numbers

OMX interface

Contact closure input/output interface	OMX-IO

Compatible with LCP128 and Softswitch128 (XPS) systems

GRX interface

Contact closure input/output interface	GRX-IO

Compatible with the GRAFIK Eye® 4000 system

Shown above: Ethernet interface (OMX-CI-NWK-E)

Features and capacities

- Allows integration with a touchscreen, PC, A/V system or other digital equipment that supports TCP/IP communication over Ethernet
- Control and monitor dimming and switching panels and GRAFIK Eye control units
- Monitor lighting scenes and levels
- OMX model operates at 24 V DC; GRX model operates at 12/24 V DC

Dimensions and mounting

- Width: 4.26 in (108 mm)
  Height: 5.26 in (134 mm)
  Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an A/V rack or in an enclosure if conduit is desired
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

Related components

Rack unit
(available separately, see pg. 660)

Enclosure
(available separately, see pg. 659)

Download specification submittal for OMX
Download specification submittal for GRX

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to main control unit and other system components
- Standard CAT5 cable (328 ft (100 m) maximum length) connects interface to Ethernet source
- Multiple control interfaces may be used in a single system
- OMX model - counts as one control interface on the OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX model - GRAFIK Eye 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each Ethernet interface counts as one control interface

Functionality and operating modes

- Control
  - Softswitch 128: scene selection, scene lockout, zone lockout, enable/disable time clock
  - LCP 128: scene selection, scene lockout, zone lockout, zone raise/lower, enable/disable time clock
  - GRAFIK Eye 4000: scene selection, scene lockout, sequencing zone, lockout, zone raise/lower, set zone intensity
- Monitor: current scene, button presses, zone level

Model numbers

OMX interface

RS232/Ethernet interface	OMX-CI-NWK-E

Compatible with LCP128™ and Softswitch128® (XPS) systems

GRX interface

RS232/Ethernet interface	GRX-CI-NWK-E

Compatible with the GRAFIK Eye® 4000 system

Shown above: RS232 interface (GRX-CI-RS232)

Features and capacities

- Allows integration with a touchscreen, PC, A/V system or other digital equipment that supports RS232 communication
- Control and monitor dimming and switching panels and GRAFIK Eye control units
- Monitor lighting scenes and levels
- OMX model operates at 24 V DC; GRX model operates at 12/24 V DC

Dimensions and mounting

- Width: 4.26 in (108 mm)
  Height: 5.26 in (134 mm)
  Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an A/V rack or in an enclosure if conduit is desired
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

Related components

Rack unit (available separately, see pg. 660)

Enclosure (available separately, see pg. 659)

Download specification submittal for OMX
Download specification submittal for GRX

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to main control unit and other system components
- Standard 9-pin serial connector plugs into interface and RS232 equipment
- Distance between interface and RS232 source not to exceed 50 ft (15 m)
- Multiple control interfaces may be used in a single system
- OMX model-counts as one control interface on OMX link; can have up to 32 keypads/wallstations and/or control interfaces
- GRX model-GRAFIK Eye 4000 system can have up to 16 keypads/wallstations and/or control interfaces; each RS232 interface counts as one control interface

Model numbers

OMX interfaces

RS232 interface	OMX-CI-RS232
RS232 interface (Japan)	OMX-CI-RS232-JA

Compatible with LCP128 and Softswitch128 (XPS) systems

GRX interfaces

RS232 interface	GRX-CI-RS232
RS232 interface (Japan)	GRX-CI-RS232-JA

Compatible with the GRAFIK Eye 4000 system

Shown above: Time clock/programming interface (GRX-CI-PRG)

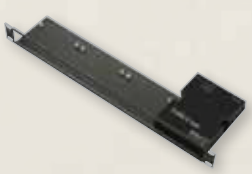
Features and capacities

- Integrates the GRAFIK Eye® 4000 control system with a PC or other digital equipment that supports RS232 or TCP/IP communication
- Provides a basic serial string command set that allows a PC to monitor and control lighting; functionality is selected in the field using dip switches
- Built-in astronomic time clock provides ability to schedule lighting events
- Acts as a programming interface, enables use of a PC to set up GRAFIK Eye 4500 control units
- Comes with easy-to-use, LIAISON™ software for scheduling the astronomic time clock and utilizing the programmer Interface
- May be programmed to control up to eight GRAFIK Eye 4000 series control units
- Operates at 12/24 V DC

Dimensions and mounting

- Width: 4.26 in (108 mm)
  Height: 5.26 in (134 mm)
  Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an A/V rack or in an enclosure if conduit is desired
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

Related components



Rack unit
(available separately,
see pg. 660)

Enclosure
(available separately,
see pg. 659)

Download specification submittal

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to main control and other system components
- Standard CAT5 cable (328 ft (100 m) maximum length) connects interface to PC or other Ethernet Source
- Standard 9-pin serial connector plugs into interface and RS232 equipment
- Distance between interface and RS232 source not to exceed 50 ft (15 m)
- One interface per GRAFIK Eye® 4000 system, automatically occupies wallstation address 16

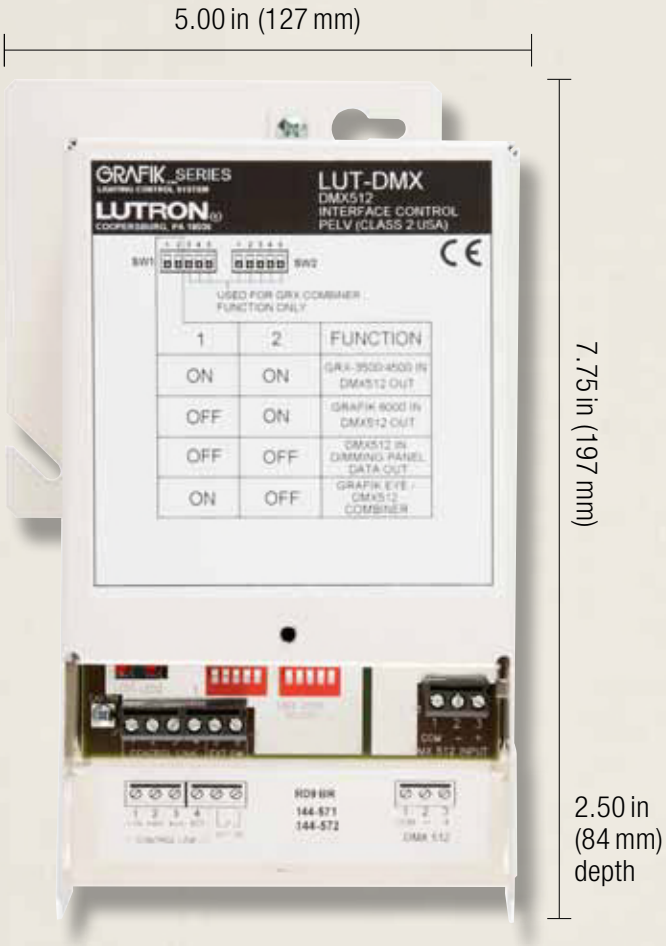
Functionality and operating models

- Control: scene selection, scene lockout, zone lockout, zone raise/lower, enable/disable time clock
- Monitor: current scene, button presses
- Programmer interface:
  - Scenes, including light levels in 1% increments and fade times
  - Load type settings
  - Tamper-proof protection of scenes
  - Assignment of communication between control units and wallstations
  - Panel zone and load assignment

Model numbers

Interface	
Time clock/programming interface	GRX-CI-PRG
Time clock/programming interface (Japan)	GRX-CI-PRG-JA

Compatible with the GRAFIK Eye 4000 system



Shown above: DMX512 output interface (LUT-DMX)

Model numbers

Interfaces

DMX512 output interface	LUT-DMX

Compatible with the GRAFIK Eye® 4000 system

Features and capacities

- Allows GRAFIK Eye® control unit to operate lighting and other equipment that uses the DMX512 protocol, including:
  - Strobes, fiber optic lighting, and LED-based lamps
  - Fog machines
  - Animated characters and motorized fixtures
- Converts GRAFIK Eye zone intensities into DMX512 channel settings—each zone is assigned to a DMX512 channel
- One DMX512 output interface per system, does not require an address
- Up to 64 GRAFIK Eye lighting zones and/or DMX512 channels per GRAFIK Eye 4000 system
- Operates at 12/24 V DC

Dimensions and mounting

- Width: 5.00 in (127 mm)
  Height: 7.75 in (197 mm)
  Depth: 2.50 in (84 mm)
- Mounts to a standard 4 in (102 mm) x 4 in (102 mm) junction box or surface mount directly to wall

Communication and wiring

- Operates via low-voltage IEC PELV/NEC class 2 standard wired communication to the main control unit and other system components
- Does not count toward maximum number of keypads/wallstations/control interfaces in a GRAFIK Eye 4000 system
- Connects to theatrical equipment via DMX cable (P/N GRX-CBL-DMX-250 or GRX-CBL-DMX-500, sold separately)

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Shown above: DMX512 input interface (ODMX-512)

Features and capacities

- Provides an interface between a DMX512/1990 compatible stage lighting console and a Lutron lighting control system
- Supports up to 32 consecutive channel levels from the entire range of 512 channels
- Each channel can be mapped to one or more circuits on the system
- Control can be shared between systems
- Operates at 24 V DC

Download specification submittal

Dimensions and mounting

- Width: 5.00 in (127 mm)
  Height: 7.75 in (197 mm)
  Depth: 2.50 in (84 mm)
- Mounts to a standard 4 in. (102 mm) x 4 in (102 mm) junction box or surface mount directly to wall

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- Connects to theatrical equipment via DMX cable (P/N GRX-CBL-DMX-250 or GRX-CBL-DMX-500, sold separately)
- OMX link length not to exceed 2000 ft (610 m), can be extended with the Lutron data link repeater (pg. 505)
- LCP 128 system can have up to 32 keypads/ wallstations and/or control interfaces; each DMX512 input interface counts as one control interface

Related components

Multiple channel theatrical consoles (sold separately, see pg. 346)

Model numbers

Interface

DMX512 input interface	ODMX-512

Compatible with the LCP128 system

Shown above:
Infrared interface (GRX-IRI)

Model numbers

Interface	
Infrared	GRX-IRI

Compatible with the GRAFIK Eye 4000 system

Features and capacities

- Allows auxiliary systems equipped with an infrared (IR) emitter to control the Lutron lighting control system by accessing functions using IR codes
- Address the GRAFIK Eye main units to the IR interface in the field via DIP switches
- Standard Lutron IR codes allow control of the GRAFIK Eye main units as a group:
  - Select 16 scenes plus Off
  - Raise/lower all zones
- Lutron PRO IR codes can be used for ultimate flexibility, providing individual control of any of the GRAFIK Eye main units assigned to the group:
  - Select 16 scenes plus Off
  - Raise/lower any one or all zones
  - Save current setting as a scene (GRAFIK Eye 4500 series only)
- Operates at 12/24 V DC

Dimensions and mounting

- Width: 1.75 in (45 mm)
  Height: 4.1 in (105 mm)
  Depth: 0.90 in (23 mm)
- Mount in a standard 1-gang U.S. backbox or directly to the wall

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and other system components
- GRAFIK Eye 4000 system can have up to sixteen keypads/wallstations and/or control interfaces; each infrared interface counts as one control interface
- Up to eight GRAFIK Eye main units can communicate with the IR interface

Shown above: Daylight controller (GRX-DACPI-A-WH)

Features and capacities

- Automatically selects preset scenes in response to ambient daylight levels
- Features range qualification time which eliminates lighting level fluctuations by waiting two minutes before an automatic scene change
- Monitors ambient light, automatically selecting scenes as daylight levels set cross thresholds
- Device lets you set up four banks of thresholds and scenes; three different thresholds can be set-up for each bank
- Works with up to three Lutron wired photosensors wired in parallel or one 0-10V photosensor by others
- Operates at 32V DC
- Available in White (WH) with matching opaque top

Dimensions and mounting

- Width: 8.94in (227mm)
  Height: 4.56in (116mm)
  Depth: 1.94in (49mm)
  Profile 0.31 (8mm)
- Mounts in a 4-gang U.S. backbox, 3.50in (89mm) deep

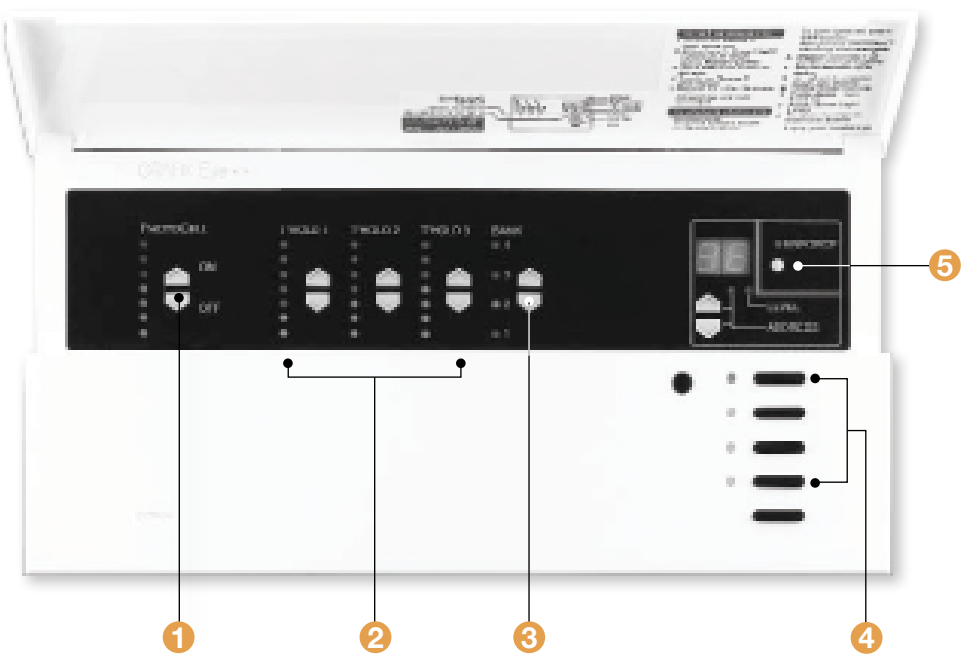
Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communication to the main control unit and photosensor
- GRAFIK 4000 system can have up to 16 keypads/ wallstations and/or control interfaces; each daylight controller counts as one control interface

Related components

Wired photosensor
(available separately, see pg. 456)

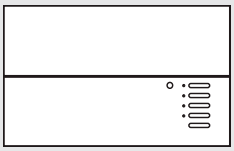
Explanation of features



Daylight controller with top open

	Feature	
1	Photocell calibrate	• Calibrates the photocell connected to the daylight controller
2	Threshold raiser/lower	• Used to set-up 3 thresholds for each bank • Each threshold must be equal to or lower than the next threshold
3	Bank selection	• Select which bank of scenes the daylight controller utilizes • LED 1 lights for bank 1, LED 2 for bank 2, LED 2 for bank 3, LED 4 for bank 4
4	Scene selection buttons	• Select scenes – 1 to 4 with bank 1 – 5 to 8 with bank 2 – 9 to 12 with bank 3 – 13 to 16 with bank 4
5	Enforce toggle button and LED	• Forces the daylight controller to re-select the appropriate scene every 5 minutes—even if daylight levels stay the same. • LED lights when enforce mode is on

Available models



Daylight controller

Model number

Interface	
Daylight controller	GRX-DACPI-A-WH

Compatible with the GRAFIK Eye 4000 system

Shown above: AC motor group controller (GRX-4M-GC)

Features and capacities

- 4-channel AC motor controller that provides capability to seamlessly integrate AC motorized window treatments (or projection screens) into a Lutron lighting control system
- Models available for 120 V and 220-240 V (CE) @ 50/60 Hz
- Requires a dedicated zone on GRAFIK Eye control unit for each channel in group controller
- Allows AC motorized window treatments to be controlled independently or to be incorporated into lighting scenes
- Provides dry contact closure inputs for control by low-voltage, dry contact closure devices
- Provides open, close, and stop terminals for contact closure input
- Provides LED indication of last position of AC window treatments (Open, Close, Stop)

Dimensions and mounting

- Width: 12.00 in (305 mm)
  Height: 7.90 in (200 mm)
  Depth: 2.75 in (70 mm)
- Surface mounted

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 standard wired communicated to GRAFIK Eye 4000 series control unit
- Metal enclosure separates line voltage and low-voltage wiring for ease of installation
- Up to 8 AC motor group controllers per GRAFIK Eye 4000 system, does not require an address
- Does not count toward maximum number of keypads/wallstations/control interfaces in a GRAFIK Eye 4000 system

Related components

seeTouch window treatment keypad (sold separately, see pg. 335)

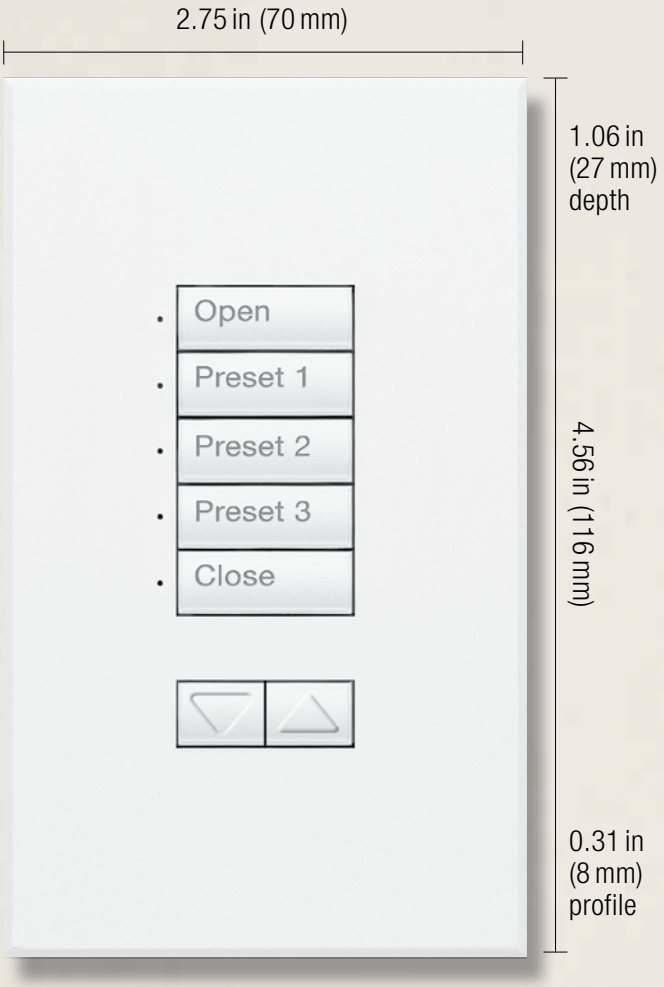
Model numbers

AC motor group controllers

120 V	GRX-4M-GC
220-240 V (CE)	GRX-4M-GC-CE

Compatible with the GRAFIK Eye® 4000 system

Download specification submittal



Shown above: Sivoia QED controller non-insert style in White (SG-SVCN-WH)

Features and capacities

- Provides programming and control of one group of Sivoia QED window treatments
- Allows Sivoia QED window treatments to be controlled independently or to be incorporated into lighting scenes
- Window treatment may be set to Open, Close, or Unaffected in each and every lighting scene, including the Off scene
- Front accessible DIP switches allow change of address without removing the unit from the wall
- Large, rounded buttons are easy to use
- Backlit buttons or text make it easy to find and operate the keypad in low light conditions
- One Sivoia QED needed per group of Sivoia QED window treatment (up to 96 electronic drive units)
- Requires a dedicated zone on GRAFIK Eye® control unit for each Sivoia QED controller
- Operates at 12/24 V DC

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 into a standard 1-gang U.S. backbox

Communication and wiring

- Operates via low-voltage IEC PELV/NEC Class 2 wiring standard wired communication to the main control unit and other system components
- GRAFIK Eye 4000 system can have up to sixteen keypads/wallstations and/or control interfaces; each Sivoia QED controller counts as one control interface

Related components

seeTouch® window treatment keypad (available separately, see pg. 335)

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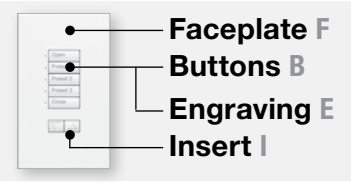
Available finishes



Use **BOLD** color code in model number (Example: SG-SVCN-**WH**)

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

WH
White F,I,B
Gray E

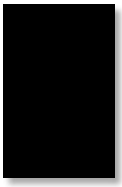
BE
Beige F,I,B
Gray E

IV
Ivory F,I,B
Gray E

GR
Gray F,I,B
White E

TP
Taupe F,I,B
(non-insert only)
Gray E

BR
Brown F,I,B
White E



BL
Black F,I,B
White E

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

BN
Bright Nickel F
Black B,I
White E

BC
Bright Chrome F
Black B,I
White E

CLA
Clear Anodized
Aluminum F
Black B,I
White E

SC
Satin Chrome F
Black B,I
White E

SN
Satin Nickel F
Black B,I
White E

QZ
Antique Bronze F
Black B,I
White E

BB
Bright Brass F
Black B,I
White E

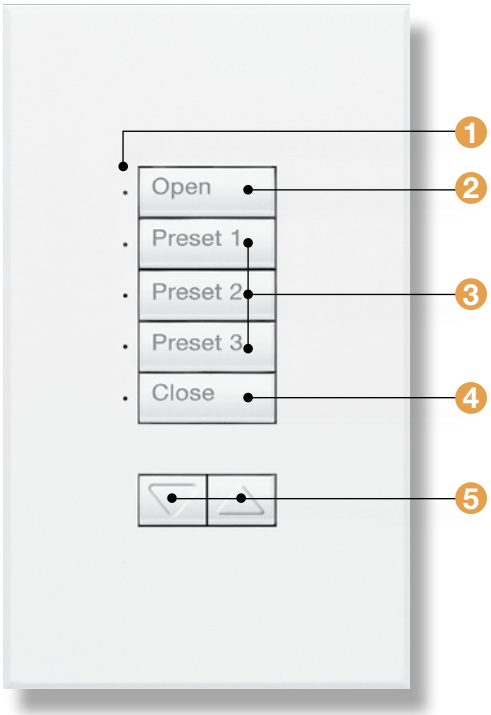
BRA
Brass Anodized
Aluminum F
Black B,I
White E

SB
Satin Brass F
Black B,I
White E

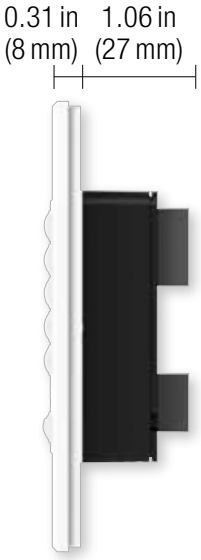
QB
Antique Brass F
Black B,I
White E

BLA
Black Anodized
Aluminum F
Black B,I
White E

Explanation of features



Sivoia QED controller



Feature	
1 Status LEDs	• Utilized during programming • Indicate which controller button has been activated
2 Open button	• Pressing the Open button once will cause the window treatment(s) to move to fully open position; pressing the Open button again while the window treatment(s) is opening will stop movement
3 Preset buttons	• Pressing the Preset 1, Preset 2, or Preset 3 button once will cause the window treatment(s) to move to the first, second, and third preset level, respectively • If the Preset 1, Preset 2, or Preset 3 button is pressed while the window treatment(s) is moving, the window treatments will stop
4 Close button	• Pressing the Close button once will cause the window treatment(s) to move to the fully closed position; pressing the Close button again while the window treatment(s) is closing stop movement
5 Raise/lower buttons	• Pressing the raise/lower buttons will cause the window treatment(s) to open/close while the button is pressed

Available models

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

Sivoia QED controller

Model numbers

Sivoia QED controller

Non-insert style	SO-SVCN-**XX-EEE**
Insert style	SO-SVCI-**XX-EEE**

Compatible with GRAFIK Eye 4000 system

XX: Architectural matte and metal color codes, see pg. 489)

EEE: Engraving codes, see pg. 668)

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, time clocks, 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 (latching)
- Operates at 24 V DC

Dimensions and mounting

- Width: 4.26 in (108 mm)
  Height: 5.26 in (134 mm)
  Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an A/V rack, or in an enclosure if conduit is desired
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

Related components

Rack unit
(available separately,
see pg. 660)

Enclosure
(available separately,
see pg. 659)

Download specification submittal

Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- Uses three power draw units on the QS link
- Each QS link on a Quantum or HomeWorks QS processor can have up to 99 QS devices; each QS contact closure input/output interface counts as one device toward the limit

Functionality and operating modes

- Contact closure inputs and outputs are fully programmable using the Quantum and HomeWorks QS software
- 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, control lockout, and time clock disable
- 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 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 Quantum® and HomeWorks® QS systems

Shown above: RS232/Ethernet interface (QSE-CI-NWK-E)

Features and capacities

- Interface allows integration with a touch screen, PC, A/V systems, or other digital equipment that supports RS232, or TCP/IP communication over Ethernet
- Control and monitor GRAFIK Eye QS main units, Sivoia® QS shades and draperies, Energi Savr Node modules and other products on the wired QS link
- Monitor lighting scenes, levels, and shade positions
- Operates at 24 V DC

Dimensions and mounting

- Width: 4.26 in (108 mm)
  Height: 5.26 in (134 mm)
  Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an A/V rack or in an enclosure if conduit is desired
- Must be fully enclosed in unventilated metal enclosure per applicable code for installation in spaces designed for environmental air handling

Related components

Rack unit
(available separately,
see pg. 660)

Enclosure
(available separately,
see pg. 659)

Download specification submittal

Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- Up to ten QS RS232/Ethernet interfaces are allowed per QS link
- Each QS link on a Quantum or HomeWorks QS processor can have up to 99 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, 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 Quantum® and HomeWorks® QS systems

Shown above: DMX control interface (QSE-CI-DMX)

Features and capacities

- Allows control of DMX512-controlled devices
- Zones can be mapped to either a single DMX512 channel or to three separate DMX512 channels, for RGB/CMYK color-control applications
- Integral RGB/CMYK lookup table that maps zone intensities to RGB/CMYK 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: 4.26 in (108 mm)
  Height: 5.26 in (134 mm)
  Depth: 1.06 in (27 mm)
- Mounts directly to the wall, to an AV rack or in an enclosure
- 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. 660)

Enclosure
(available separately,
see pg. 659)

Download specification submittal

Communication and wiring

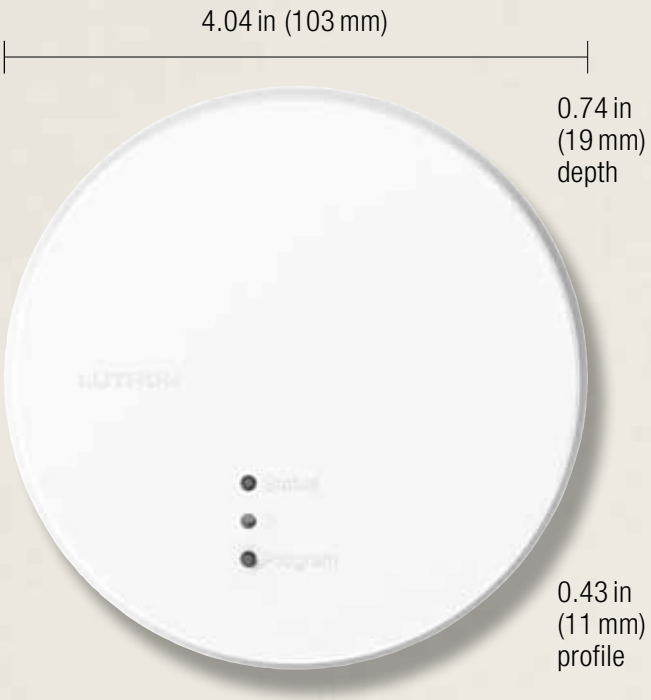
- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- Connects to theatrical equipment via DMX cable (P/N GRX-CBL-DMX-250 or GRX-CBL-DMX-500, sold separately)
- One DMX512 output control interface per QS link; counts toward the 99 QS device limit on each of the QS links on a Quantum or HomeWorks QS processor
- Each channel counts as a single zone; each QS link on a Quantum or HomeWorks QS processor has a 512 zone 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 Quantum and HomeWorks QS systems



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, 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, Radio shadow sensor, 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
- Radio Frequency (RF) range: 60 ft (18 m) line of sight, or 30 ft (9 m) through walls
- Low-voltage IEC PELV/NEC Class 2 wired communication via the QS link
- Each QS link on a Quantum processor can have up to 99 QS devices; each QS sensor module counts as one device toward the limit
- Uses three power draw units on the QS link, not including wired inputs
- Models available for 434 MHz, 434 limited channel MHz, 865 MHz, 868 MHz and 868 limited channel MHz

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Model numbers

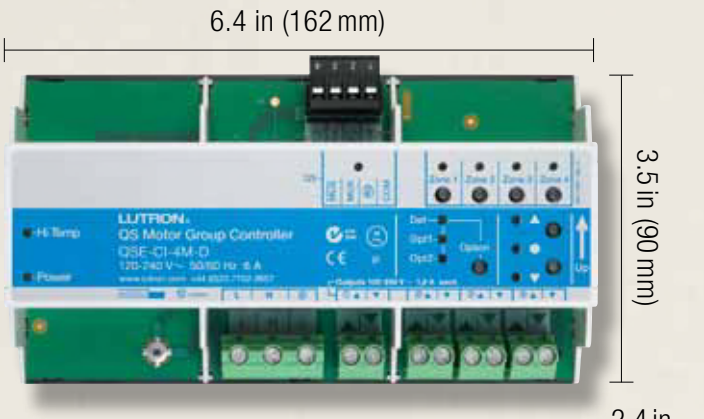
Wired and wireless inputs	
North America (434 MHz)	QSM2-4W-C
For J-box mounting	QSM2-4W-J
European Union and U.A.E.(868 MHz)	QSM3-4W-C
China and Singapore (868 MHz limited channel)	QSM4-4W-C
Hong Kong (434 MHz limited channel)	QSM7-4W-C

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

Wired input only	
Wired input only, non-RF	QSMX-4W-C

Compatible with the Quantum® system

For specific radio frequency information by country, refer to radio frequency chart on pg. 695.



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

Features and capacities

- Provides seamless integration of QS stand-alone systems with AC blinds, shades, louvers, projection screens, or any compatible AC motor
- Can be controlled by the GRAFIK Eye® QS main unit, seeTouch® QS keypad, or Pico® wireless control
- Provides four independently controllable AC raise/lower outputs from one common AC input feed; 1.5 A maximum motor load per channel, 6 A 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 = 9.5 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
- Each QS link on a Quantum processor can have up to 99 QS devices and 512 zones; each QS motor group controller counts as four zones and one device toward the limit
- Does not provide nor consume power draw units on QS link

Model numbers

QS motor group controller (DIN-rail)

QS motor group controller (DIN-rail) 120-240 V (CE)	QSE-CI-4M-D
Compatible with the Quantum system	

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Shown above: Energy meter
LUT-SUBM208-100C-CPN5898

Features and capacities

- Provides accurate, real-time energy measurement of lighting, HVAC, and/or plug loads coupled with verification capability via Quantum GreenGlance® and Q-Admin™ software
- Metered data contributes to LEED certification and helps meet requirements for industry regulation and/or regional rebates and incentives
- Models available for 120/208 V, 277/480 V or 347/600 V
- Each meter includes one set of three split-core current sensors; connect up to three sets of current sensors (all same amperage) to monitor up to three loads of the same voltage with one meter
- Current sensors available for 100 A, 200 A, 400 A, 800 A, 1600 A or 3200 A
- Battery back-up in event of power failure, 8-year battery life expectancy
- Q-Manager server is required

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Dimensions and mounting

- Width: 7.00 in (178 mm)
  Height: 7.50 in (191 mm)
  Depth: 3.25 in (83 mm)
- Current Sensor
  - 100 A or 200 A: Width: 3.75 in (95 mm); Height: 2.75 in (70 mm); Depth: 1.3 in (33 mm)
  - 400 A; Width: 3.75 in (95 mm); Height: 4.25 in (108 mm); Depth: 1.3 in (108 mm)
  - 800 A/1600 A: Width: 6.09 in (155 mm); Height: 5.75 in (146 mm); Depth: 1.25 in (32 mm)
  - 3200 A: Width: 7.75 in (197 mm); Height: 9.28 in (231 mm); 1.25 in (32 mm)
- Energy meter is surface mounted

Communication and wiring

- Connects to the Q-Manager server via Ethernet
- Each meter requires an Ethernet connection and a static IP address
- May be installed in a fixed electrical system on the load side of the branch circuit distribution panel
- Quantum system can have up to 500 meters

How to build a model number

Energy meter

LUT-SUBMGL480-400C-CPN5898
Voltage Amperage

Addition set of three current sensors

LUT-SUB-CS400-CPN5899
Amperage

Voltage

208 for 120/208 V
480 for 277/480 V
600 for 347/600 V

Amperage

100 for 100 A
200 for 200 A
300 for 300 A
400 for 400 A
800 for 800 A
1600 for 1600 A
3200 for 3200 A

Compatible with the Quantum system

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

Features and capacities

- Turns all or designated lighting loads to “full on” output or other programmed emergency lighting level (interface does not provide emergency power)
- 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 panel circuit selector/controller, 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**

Download specification submittal

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 24 V DC power supply must be used with an Energi Savr Node unit
- One emergency lighting interface may be used with up to 32 circuit selectors, Energi Savr Node modules, GRAFIK Eye QS main units or Quantum bus supplies
- Only one Quantum bus supply per Quantum light management hub needs to be connected per emergency lighting interface; up to eight Quantum hubs can be connected to one interface

Model numbers

Interfaces

Emergency lighting interface	LUT-ELI-3PH

Compatible with LCP128, Softswitch 128 (XPS), GRAFIK Eye 4000 and Quantum systems

Shown above: Data link repeater (MX-RPTR)

Features and capacities

- Allows power panel links to be extended beyond their normal maximum distances
- Additionally, extends the maximum distance and increases the power (needed when large number of controls utilized) of the OMX link on LCP 128 and Softswitch 128 systems
- Links may be extended 2,000 ft (600 m) for every repeater added (maximum of three repeaters per link); total maximum length including boosters not to exceed 8,000 ft (2,400 m)
- Models available for 120 V or 220-240 V (CE)

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

Communication and wiring

- Low-voltage IEC PELV/NEC Class 2 wiring for communication
- Requires 120 V or 220-240 V external power
- Connection of the repeater to link should be made inside the repeater enclosure or in a junction box located no more than 8 ft (24 m) from the device

Model numbers

Data link repeater

120 V	MX-RPTR
220-240 V (CE)	MX-RPTR-220/240

Compatible with LCP128, Softswitch128 (XPS) and Quantum systems

Download specification submittal

Features and capacities

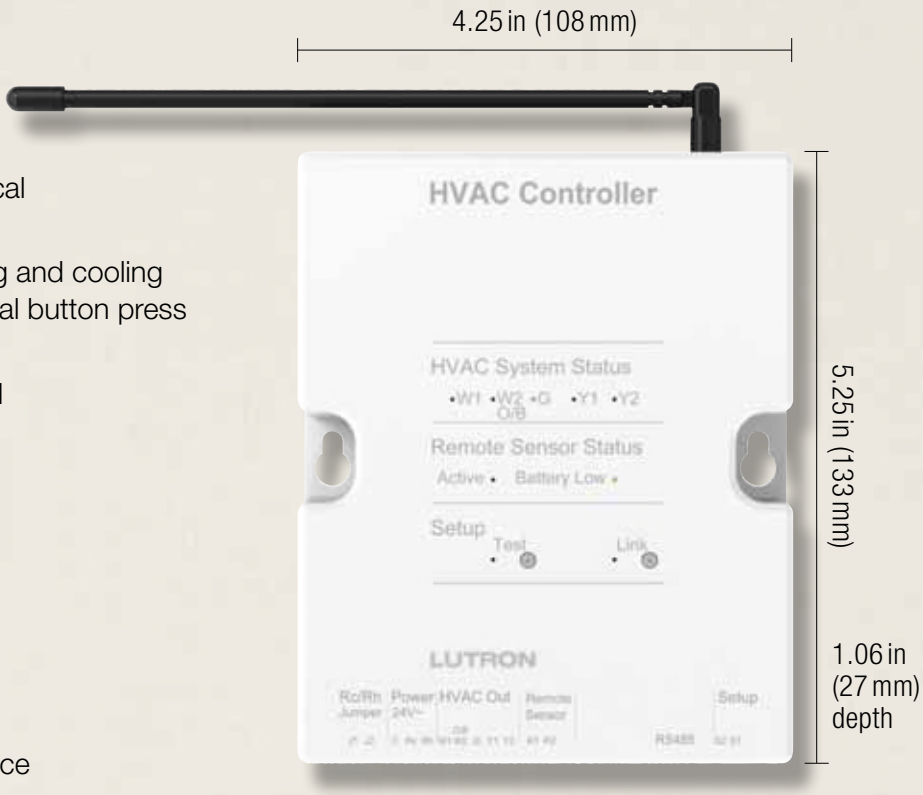
- Connects to and controls mechanical HVAC equipment
- Provides the ability to adjust heating and cooling systems any time of day with manual button press or time clock input
- Can utilize either a wireless or wired temperature sensor
- Available exclusively in White (WH)
- Operates at 24 VAC

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

Communication and wiring

- Communicates via Lutron reliable Clear Connect® radio frequency (RF) technology to other Lutron wireless devices
- Operates at 434 MHz
- HVAC controller must be located within 30 ft (9 m) of a hybrid repeater
- Wires to and is powered by HVAC equipment using standard 24 V AC thermostat wiring
- HomeWorks QS system can have up to 99 devices per RF link
- Requires one wired sensor (air duct or flush-mount); when using wireless sensor, wired sensor ignored until battery loss
- Up to four wireless temperature sensors can be used with a single HVAC controller



Shown above: HVAC controller (available only in a package)

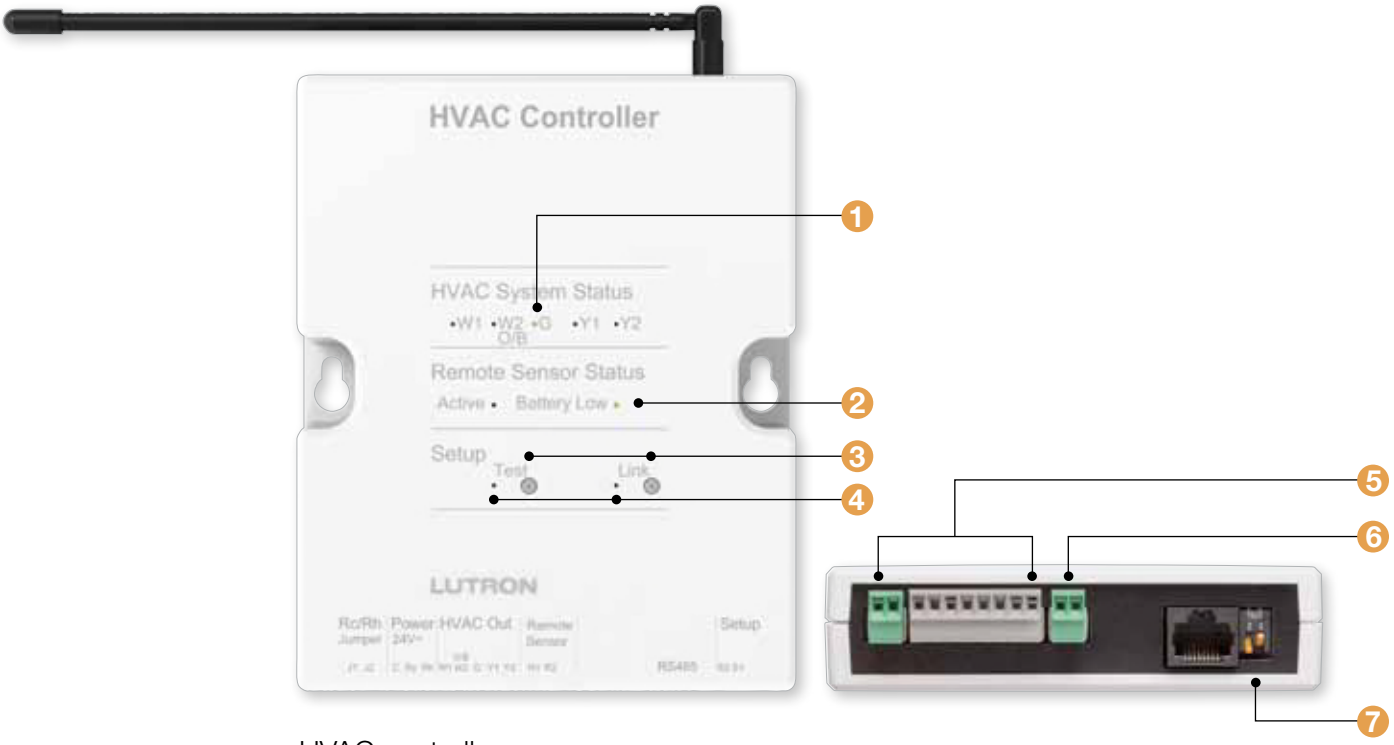
Related components

Wireless wall-mount temperature sensor (available separately, see pg. 438)

seeTemp® wall control (available separately, see pg. 415)

Download specification submittal

Explanation of features



HVAC controller

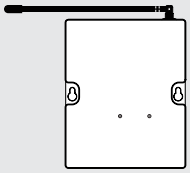
Features

1 HVAC System Status LEDs	• Indicate the status of the control outputs—when an LED is lit the corresponding relay is closed
2 Wireless temperature sensor status LEDs	• Active—LED is lit when at least 1 sensor is active • Battery Low—indicates low battery for at least 1 sensor
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	• Connection for wired backup temperature sensor
7 System type DIP switches	• Must be configured to correctly control attached HVAC equipment

Air duct sensor

Flush mount sensor

Available models



HVAC controller

Model numbers

HVAC controller packages

System package includes: LR-HVAC-PKG-WH
1 HVAC controller**
1 seeTemp® wall control (°F) (WH)
1 wireless wall-mount 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 wall-mount temperature sensor (SW)
1 wired return air duct sensor

System package includes: LR-HVAC-INT-**XX***
1 HVAC controller**
1 wireless wall-mount temperature sensor*
1 wired return air duct sensor

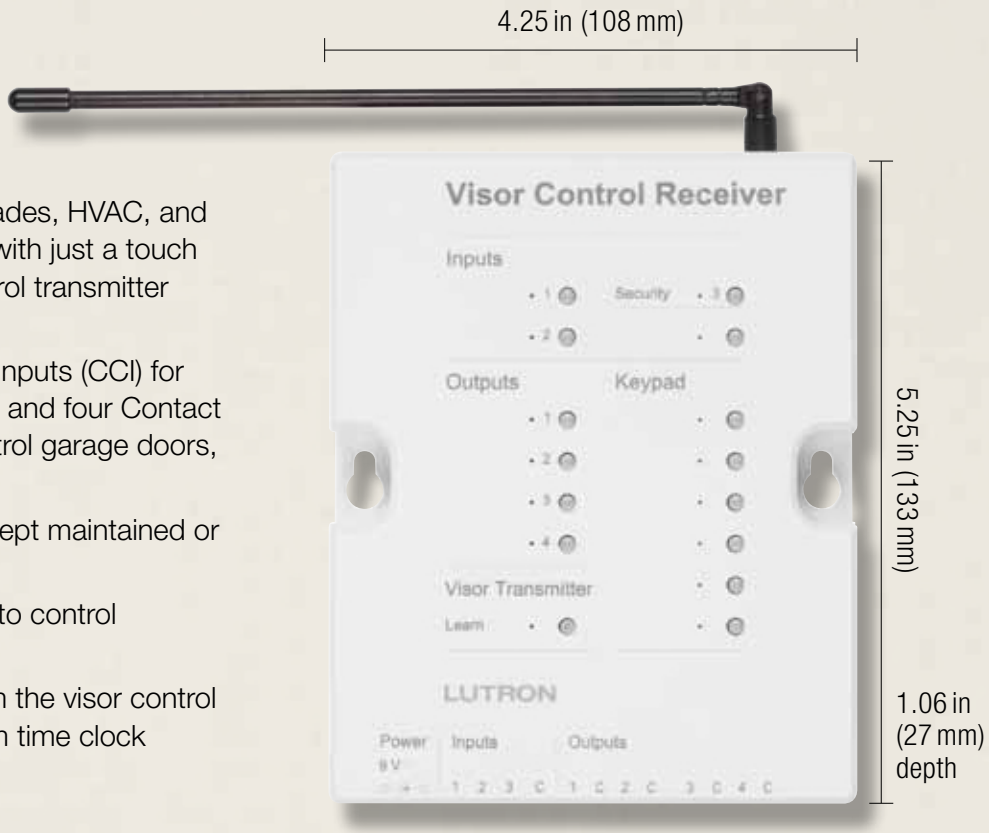
System package includes: LR-HVAC-INT-FLSH
1 HVAC controller**
1 wired flush mount sensor**

Compatible with HomeWorks QS system

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

** Only available in White (WH)

For specific radio frequency information by country, refer to radio frequency chart on pg. 695.



Shown above: HomeWorks QS visor control receiver (HQR-VCRX-WH)

Features and capacities

- Allows the control of lights, shades, HVAC, and other equipment from the car with just a touch of a button from the visor control transmitter (available separately)
- Includes two Contact Closure Inputs (CCI) for integration with other systems, and four Contact Closure Outputs (CCO) to control garage doors, and motorized gates
- CCIs can be configured to accept maintained or momentary contact closures
- Receiver can be programmed to control up to seven scenes
- Outputs can be controlled from the visor control transmitter, keypads, or system time clock

Dimensions and mounting

- Width: 4.25 in (108 mm)
  Height: 5.25 in (133 mm)
  Depth: 1.06 in (27 mm)
- Mount receiver on a wall, ceiling or flat surface

Communication and wiring

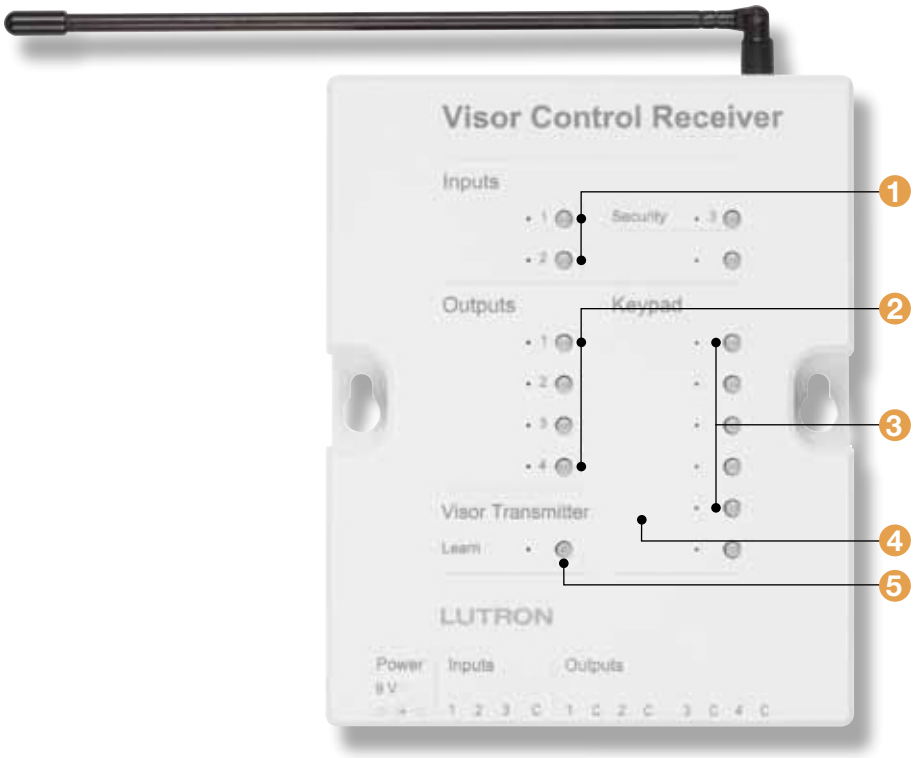
- Communicates via Lutron reliable Clear Connect® radio frequency (RF) technology to other Lutron wireless devices
- Visor control receiver must be located within 30 ft (9 m) of a hybrid repeater
- Operates at 434 MHz
- Requires 120 V source for 9 V DC adapter (included)
- Up to 10 visor control transmitters can be used with one visor control receiver
- HomeWorks QS system can have up to 99 devices per radio frequency (RF) link
- HomeLink® compatible

Related components

HomeWorks QS visor control transmitter (available separately, see pg. 413)

Download specification submittal

Explanation of features

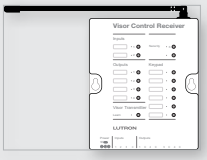


HomeWorks QS visor control receiver

Features

1 Input buttons	• Press to test contact closure input programming
2 Output buttons	• Press to test contact closure output programming
3 Keypad buttons	• Press to test keypad programming
4 Labels	• Place pre-printed or custom labels in depression to identify keypads/inputs/outputs
5 Learn button	• Press and hold for 3 seconds to enter learn mode — learn any button from transmitter to receiver
6 Contact closure terminal blocks	• Maximum 50 ft (15 m) to equipment
7 Power jack	• Powered by 9 V DC adapter (supplied)

Available models



HomeWorks QS
visor control receiver

Model numbers

Visor control receiver

Receiver	HQR-VCRX-WH

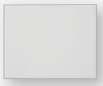
Compatible with the Quantum system

For specific radio frequency information by country, refer to radio frequency chart on pg. 695.

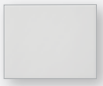
Power interfaces

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.

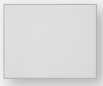
The power interfaces addressed in this guide are specific to each country's voltage requirements. Please confirm that the products you have selected match the required voltages by country on pg. 692.



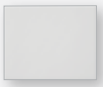
Phase-adaptive power module
pg. 514



3-wire fluorescent power module
pg. 516



Phase-adaptive power module with 3-wire fluorescent input
pg. 518



Switching power module
pg. 520

Power booster
pg. 522

Electronic low-voltage interface
pg. 524

Fluorescent dimming ballast interface
pg. 526

0-10 V interface
pg. 528

Pulse width modulation interface
pg. 530

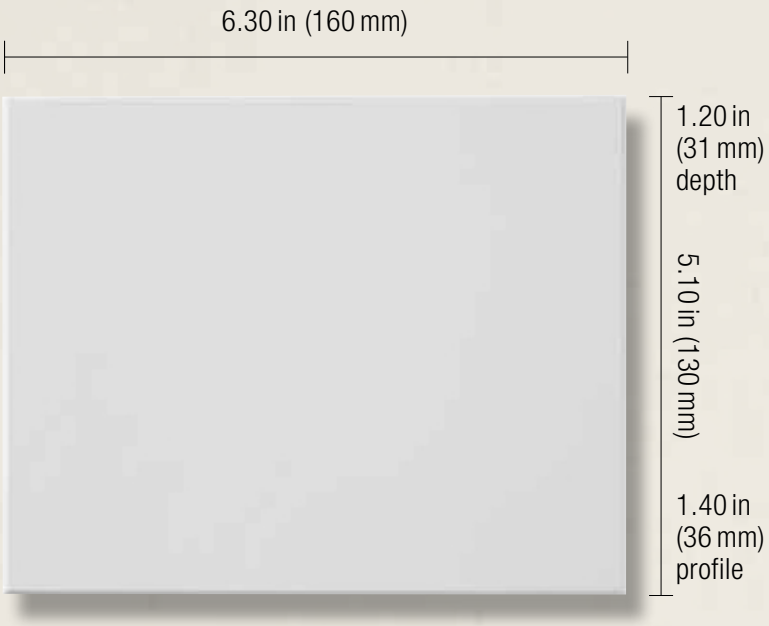
Synthetic minimum load interface
pg. 532

EcoSystem® dimming power module
pg. 534

EcoSystem switching power module
pg. 536

EcoSystem fixture module
pg. 538

EcoSystem to 0-10 V interface
pg. 540



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

Direct lighting loads

- Incandescent/halogen
- Electronic low-voltage
- Magnetic low-voltage
- Neon/cold cathode
- Tu-Wire® fluorescent
- CFL/LED (screw-base)[1]

Operating voltages[2]

- Models available to accept 120 V or 100 V (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 load power

Download specification submittal

Features and capacities

- Provides 16 A 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 10 W

Dimensions and mounting

- Width: 6.30 in (160 mm)
  Height: 5.10 in (130 mm)
  Depth: 1.20 in (31 mm)
  Profile: 1.40 in (36 mm)
- Can be surface or recess mounted
- Mount in a 2-gang U.S. wallbox 3.50 in (89 mm) deep or in a 4.00 in (102 mm) x 4.00 in (102 mm) junction box, 2.10 in (53 mm) deep
- Requires incoming power feed wires, incoming control wires and outgoing load wires
- Approved and listed for installation in spaces designed for environmental air handling per 2011 National Electrical Code® (NEC) article 300.22 (c)

Related components:

Power booster for 220-240 V applications

(available separately, see pg. 522)

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

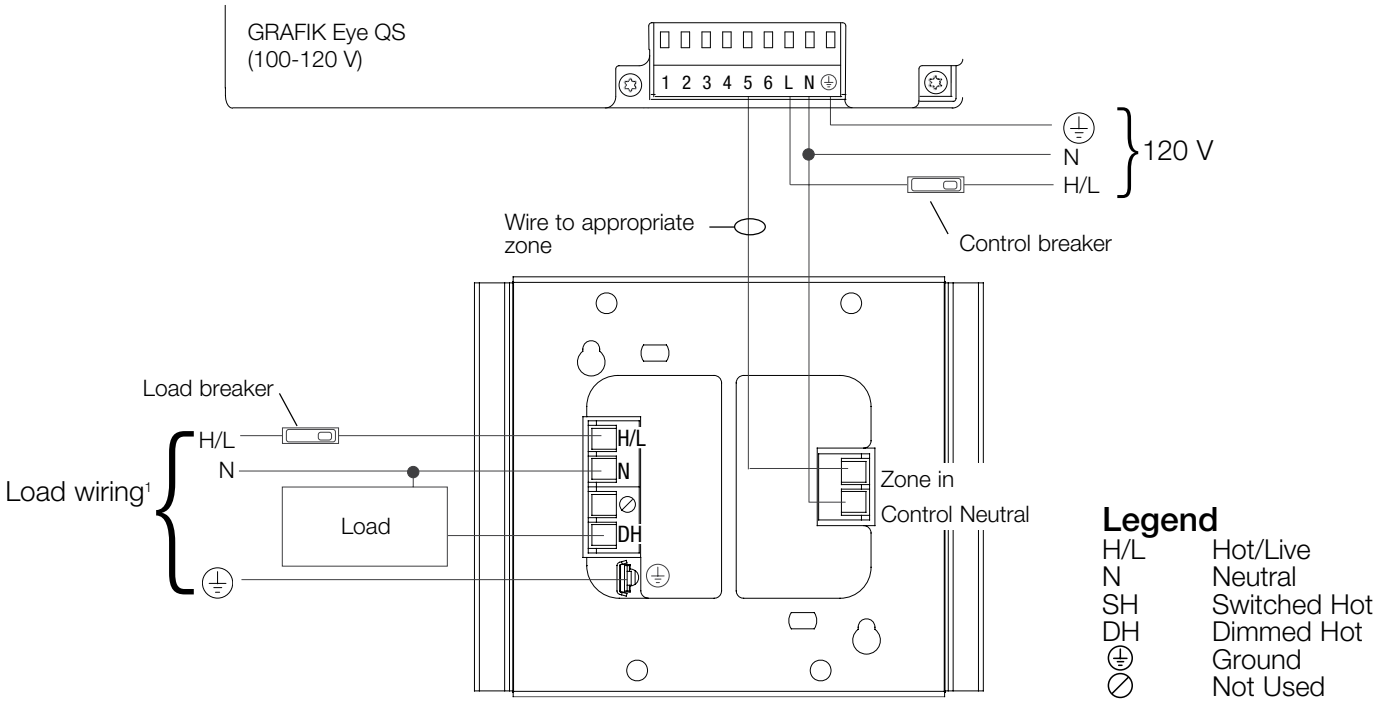
Model numbers

Modules

Phase-adaptive 120 V	PHPM-PA-120-WH
Dual voltage phase-adaptive 120-277 V	PHPM-PA-DV-WH
Phase-adaptive 100-200 V for Japan	PHPM-PA-JA-WH

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, GP dimming panel, LCP128 spec grade dimming panel, LP dimming panel, LCP128 or CCP panel with dimming and/or adaptive dimming module, HomeWorks QS hybrid keypad, HomeWorks QS wallbox power module, HomeWorks QS remote power panel with dimming and/or adaptive dimming module and HomeWorks QS spec grade panel.

Typical multiple power feed wiring with a GRAFIK Eye QS system



PHPM-PA-120-WH

[1]Load 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

Shown above: 3-wire fluorescent power module (PHPM-3F-120-WH)

Direct lighting loads

Fluorescent/LED (3-wire)

Operating voltages[1]

- Models accept 120 V control power only
- Models available for 120 V or 120-277 V load power

Features and capacities

- Provides 16 A 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 4.00 in (102 mm) x 4.00 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)

[1] Contact Lutron for model availability for 277 V load power

Download specification submittal

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

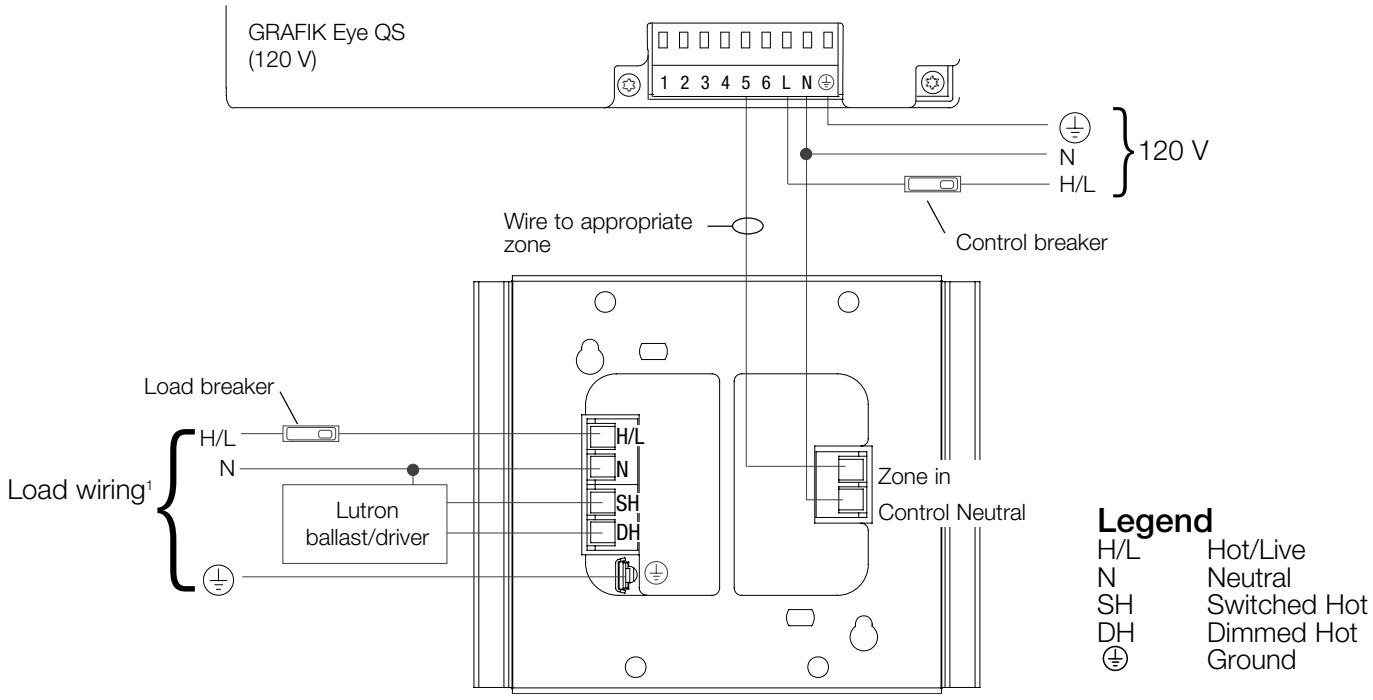
Model numbers

Modules

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

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, GP dimming panel, LCP128 spec grade dimming panel, LP dimming panel, LCP128 or CCP panel with dimming and/or adaptive dimming module, HomeWorks QS dimmer/hybrid keypad, HomeWorks QS wallbox power module, HomeWorks QS remote power panel with dimming and/or adaptive dimming module and HomeWorks QS spec grade panel.

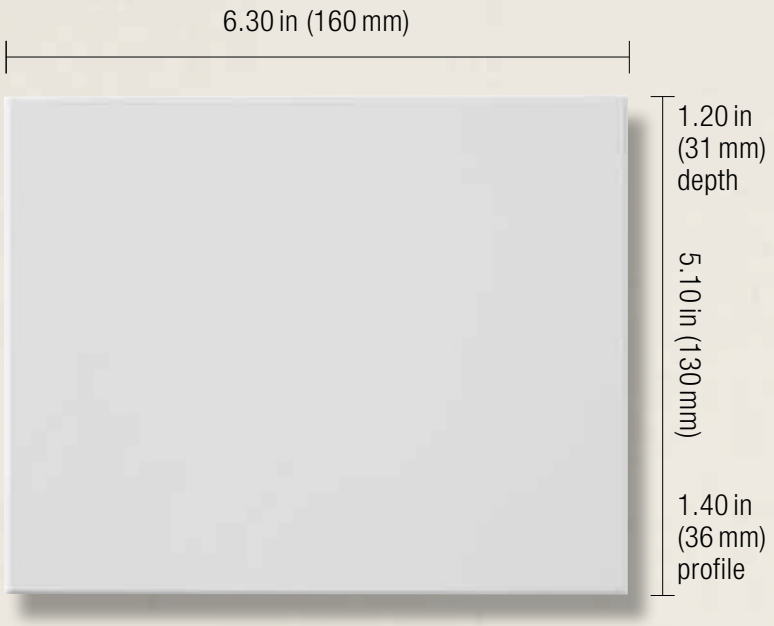
Typical multiple power feed wiring with a GRAFIK Eye QS system



PHPM-3F-120-WH

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

Phase-adaptive power module with 3-wire fluorescent input



Shown above: Phase-adaptive power module with 3-wire fluorescent input (PHPM-WBX-120-WH)

Direct lighting loads

- Incandescent/halogen
- Electronic low-voltage
- Magnetic low-voltage
- Neon/cold cathode
- Tu-Wire® fluorescent
- CFL/LED (screw-base)*

Operating voltages

- Models accept 120 V control power only
- Models available for 120 V or 120-277 V load power

Features and capacities

- When connected to a 20 A circuit breaker, provides capacity on a compatible control unit for full 16 A 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 10 W

Dimensions and mounting

- Width: 6.30 in (160 mm)
  Height: 5.10 in (130 mm)
  Depth: 1.20 in (31 mm)
  Profile: 1.40 in (36 mm)
- Can be surface or recess mounted
- Mount in a 2-gang U.S. wallbox 3.50 in (89 mm) deep or in a 4.00 in (102 mm) x 4.00 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)

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

Download specification submittal

Communication and wiring

- Separate neutrals are required for load circuit – no common neutrals
- The load breaker may be on a different phase than the control breaker
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

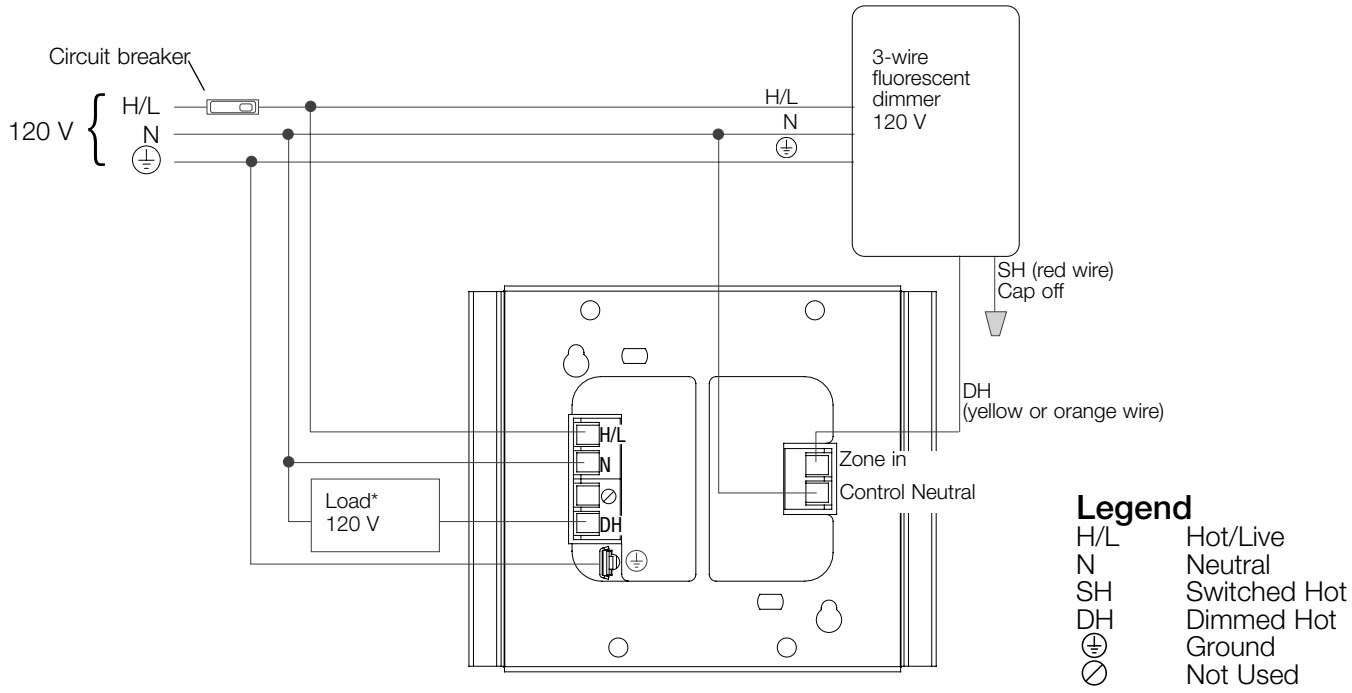
Model numbers

Modules

Phase-adaptive with 3-wire fluorescent input 120 V	PHPM-WBX-120-WH
Dual voltage phase-adaptive with 3-wire fluorescent input 120-277 V	PHPM-WBX-DV-WH

Compatible with HomeWorks QS dimmer and EcoSystem dimming power module.

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: 120 V for PHPM-WBX-120-WH; 120 V-277 V for PHPM-WBX-DV-WH

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

Direct lighting loads

- Non-dim lighting
- HID
- Motor loads:
  0.50 HP at 120 V
  1.00 HP at 277 V
- Fan loads

Operating voltages

- Models available to accept 120 V or 100 V (Japan) control power
- Model available for 120-277 V or 100 V-200 V load power

Features and capacities

- Provides 16 A 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 3.50 in (89 mm) deep or in a 4.00 in (102 mm) x 4.00 in (102 mm) junction box, 2.10 in (53 mm) deep
- Requires incoming power feed wires, incoming and outgoing load wires
- Approved and listed for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

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Communication and wiring

- Separate neutrals are required for load circuit – no common neutrals
- The load breaker may be on a different phase than the control breaker
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

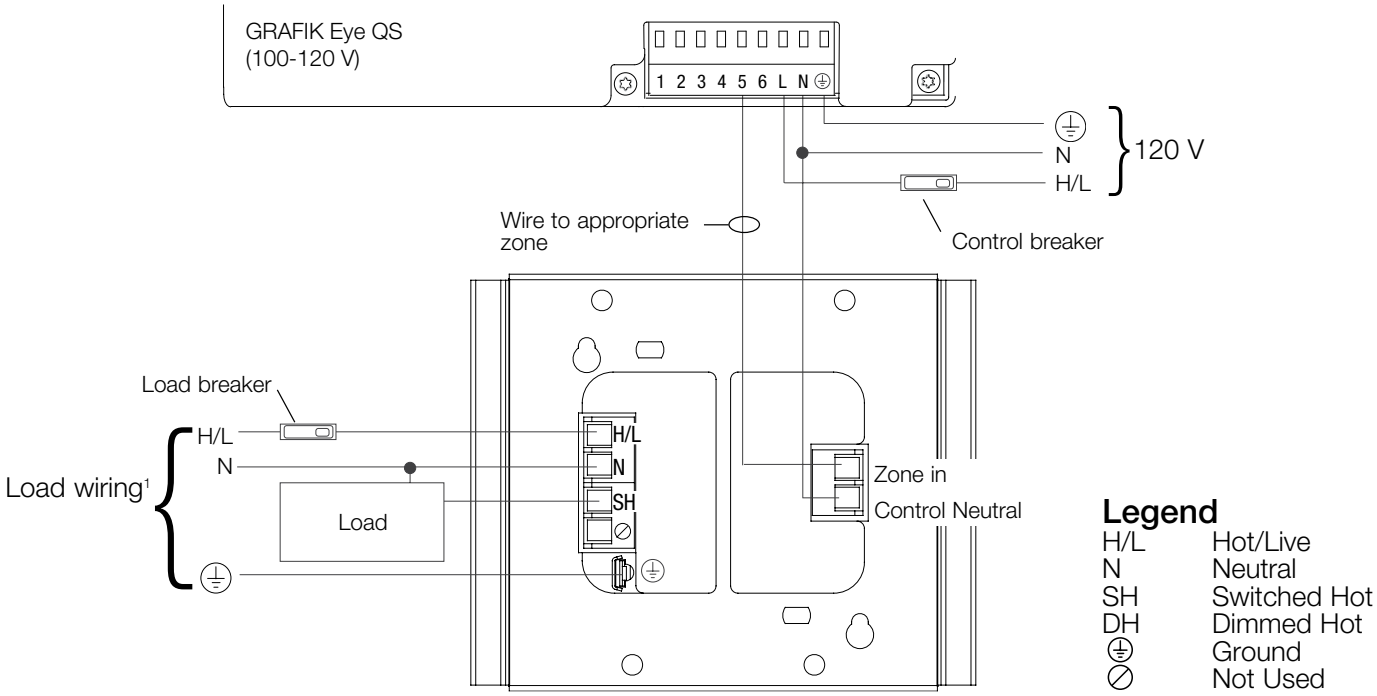
Model numbers

Modules

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

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, GP dimming panel, LCP128 spec grade dimming panel, LP dimming panel, Softswich128 switching panel, XP switching panel, LCP128 or CCP with dimming, adaptive dimming, and/or relay module, HomeWorks QS switch/hybrid keypad, HomeWorks QS wallbox power module, HomeWorks QS remote power panel with dimming, adaptive dimming, and/or relay module, HomeWorks QS spec grade panel, and EcoSystem switching power module.

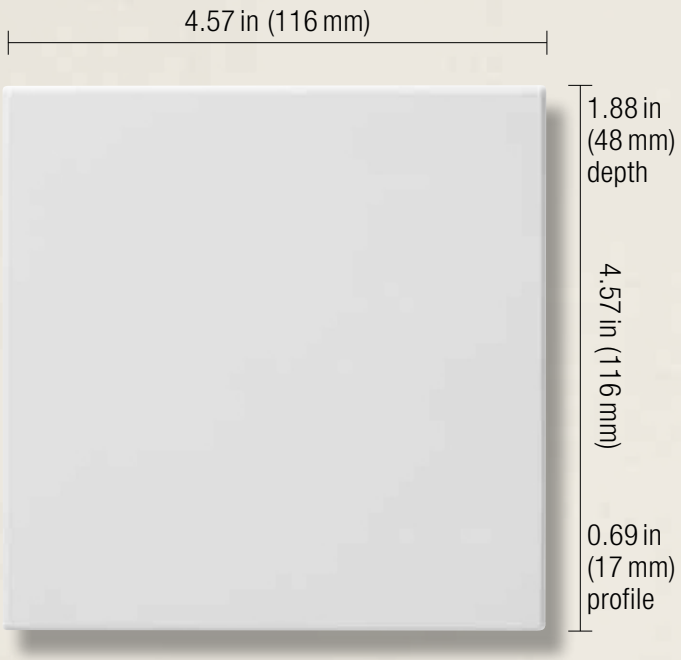
Typical multiple power feed wiring with GRAFIK Eye QS system



PHPM-SW-DV-WH

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

[1]Load feed: 120-277 V for PHPM-SW-DV-WH; 100 V or 100-200 V for PHPM-SW-JA-WH



Shown above: Power booster (NGRX-PB-CE-WH)

Direct lighting loads

- Incandescent/halogen
- Magnetic low-voltage
- Tu-Wire® Fluorescent
- Neon/cold cathode
- CFL/LED (screw-base)*

Operating voltages

- Models available for 220-240 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 120 V application, phase-adaptive power module is recommended, see pg. 514
- Two power boosters may be used on a zone to double the capacity
- For indoor use only

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.

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Communication and wiring

- Separate neutrals are required for load circuit—no common neutrals
- The load breaker/MCB may be on a different phase than the control breaker/MCB
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

Model numbers

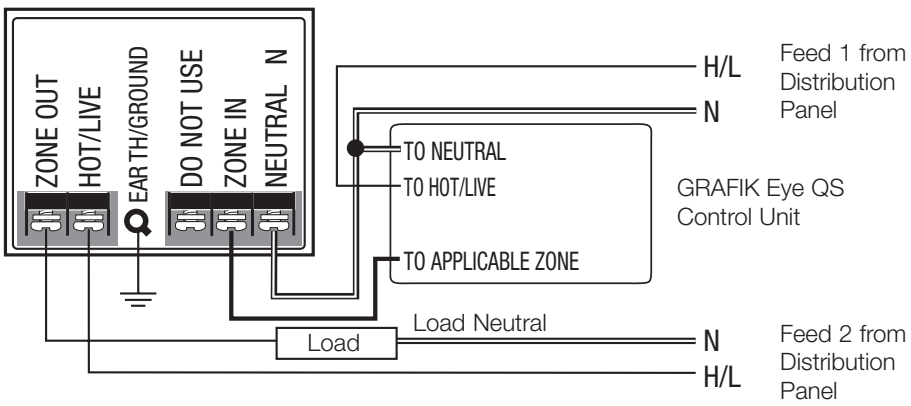
Boosters

Power Booster 220-240 V 2400 W/VA	NGRX-PB-AU-WH
Power Booster 230 V (CE) 1200 W/VA flush mount with faceplate	NGRX-PB-CE-WH
Power Booster 230 V (CE) 1840 W/VA surface mount without faceplate	NGRX-PB-CE-WH
Power Booster 100 V 1600 W/VA for Japan	NGRX-PB-JA-WH

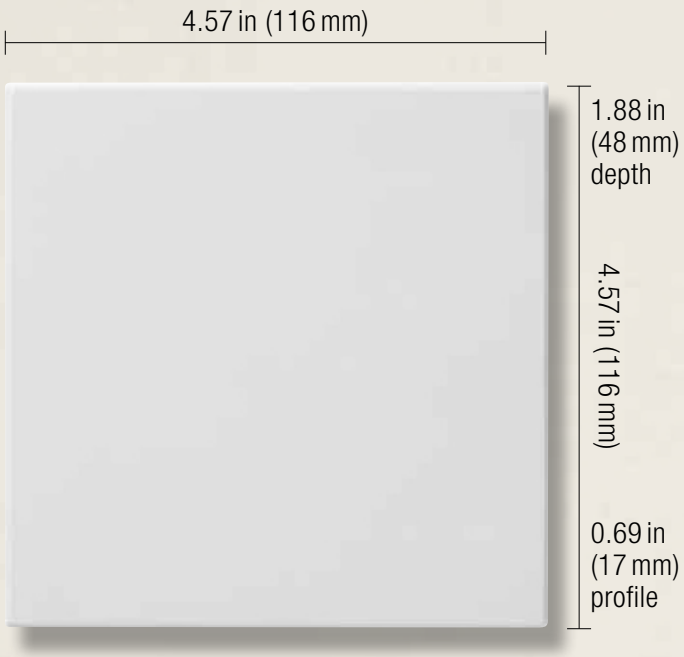
Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, Energi Savr Node™ phase adaptive (DIN-rail), GP dimming panel, LP dimming panel, LCP128 or CCP panel with dimming, adaptive dimming and/or electronic low-voltage module, HomeWorks QS wallbox power module, HomeWorks QS remote power panel with dimming and/or adaptive dimming module, HomeWorks QS spec grade panel and HomeWorks QS phase adaptive power module (DIN-rail).

Dual-feed wiring diagram for NGRX-PB 100 V, 120 V and 220–240 V

NGRX-PB-WH



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



Shown above: Electronic low-voltage interface (NGRX-ELVI-CE-WH)

Direct lighting loads

Electronic low-voltage
CFL/LED (screw-base)*

Operating voltages

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

Features and capacities

- Provides power and up to 1200 watts dimming capacity for one electronic low-voltage zone
- Operates electronic low-voltage lighting; works only with electronic (solid state) low-voltage transformers that are manufacturer approved for reverse phase control dimming
- Incandescent and electronic low-voltage sources may be controlled on same zone; up to 30% of the electronic low-voltage interfaces capacity may be used for incandescent lighting
- For 120 V application, phase-adaptive power module is recommended, see pg. 514
- Two electronic low-voltage interfaces may be used on a zone to double capacity (up to 2400 watts)
- For indoor use only

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.

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Communication and wiring

- Separate neutrals are required for load circuit—no common neutrals
- The load breaker/MCB may be on a different phase than the control breaker/MCB
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

Model numbers

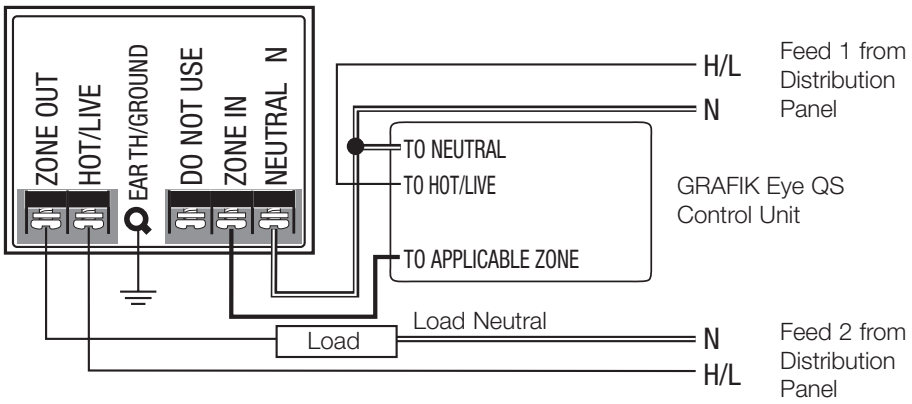
Interfaces

Electronic low-voltage interface 220-240 V 1200 W/VA	NGRX-ELVI-AU-WH
Electronic low-voltage interface 230 V (CE) 1200 W/VA	NGRX-ELVI-CE-WH

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, Energi Savr Node™ phase adaptive (DIN-rail), GP dimming panel, LP dimming panel, LCP128 or CCP panel with dimming, adaptive dimming and/or electronic low-voltage module, HomeWorks QS wallbox power module, HomeWorks QS remote power panel with dimming and/or adaptive dimming module, HomeWorks QS spec grade panel and HomeWorks QS phase adaptive power module (DIN-rail).

Dual-feed wiring diagram for 230 V (CE)

NGRX-ELVI-CE-WH



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

Shown above: Fluorescent dimming ballast interface (NGRX-FDBI-AU-WH)

Direct lighting loads

Fluorescent (3-wire)

Operating voltages

- Models available for 220-240 V

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 120 V application, 3-wire fluorescent power module is recommended, see pg. 516
- Two fluorescent dimming ballast interfaces can be connected to one zone
- For indoor use only

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)

Download specification submittal

Communication and wiring

- Separate neutrals are required for load circuit—no common neutrals
- The load breaker/MCB may be on a different phase than the control breaker/MCB
- The power module may be on the same circuit as the control unit only if the total load does not exceed the rating of the breaker

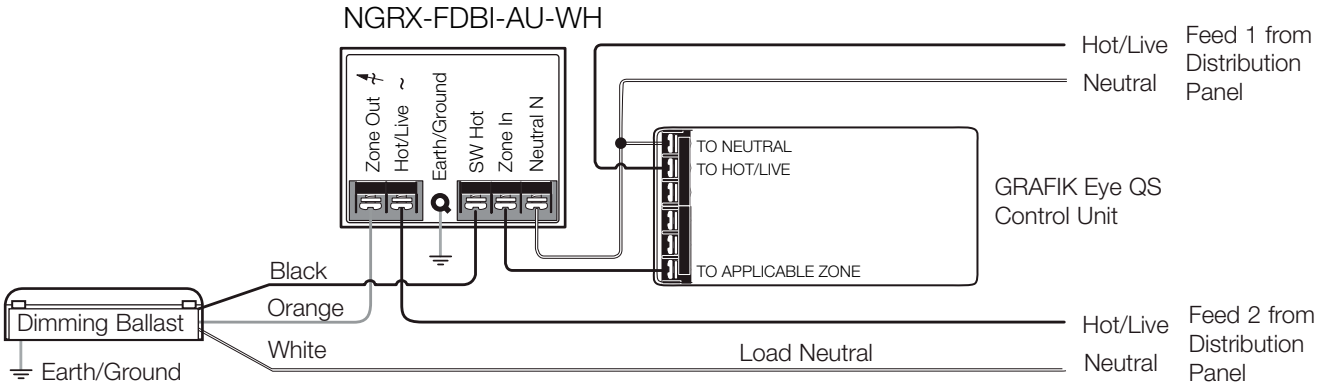
Model numbers

Interfaces

Fluorescent dimming ballast interfaces	
220–240 V 10 A	NGRX-FDBI-AU-WH

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, Energi Savr Node phase-adaptive (DIN rail) module, GP dimming panel, LP dimming panel, LCP128 or CCP with dimming, adaptive dimming, and/or electronic low-voltage module, HomeWorks QS wallbox power module, HomeWorks QS remote power panel with dimming and/or adaptive dimming module, HomeWorks QS phase-adaptive power module (DIN-rail) and HomeWorks QS spec grade panel.

Typical multiple-feed wiring diagram for GRAFIK Eye QS system



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

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

Direct lighting loads

- Fluorescent/LED (0-10V)[1]
- Non-dim lighting
- Motor loads
- Fan loads

Operating voltages[2]

- Provides 100-127V or 200-240V (CE) power to loads
- Requires 100-127V or 200-240V power for internal operations

Features and capacities

- Dims 0-10V LED drivers powered by 100-277V (driver must provide 0-10V source); consult Lutron® for LED performance
- Dims 0-10V electronic fluorescent or 0-10V dimming ballast powered by 100-277V (ballast must provide 0-10V source)
- Switches up to 16A of electronic capacitive fluorescent ballasts/other loads
- Switches motors up to 0.25HP @ 100-127V, 0.50HP @ 200-277V
- 0-10V control output current rating:10µA-127mA (sink only)
- Up to five 0-10V Interfaces may be connected to one control unit zone; this allows one zone to control up to five 16A circuits of 0-10V electronic dimming ballasts, or LED drivers or five motors
- Indoor use only

Dimensions and mounting

- Width: 6.10in (155mm)
  Height: 12.50in (318mm)
  Depth: 3.30in (84mm)
- 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)

[1] Visit **www.lutron.com/ledtool** for compatibility information.

[2] Contact Lutron for model availability for 277V load power

Download specification submittal

Communication and wiring

- Separate neutrals are required for load circuit—no common neutrals
- Each terminal can accept up to two 12 AWG (2.50 mm²) conductors

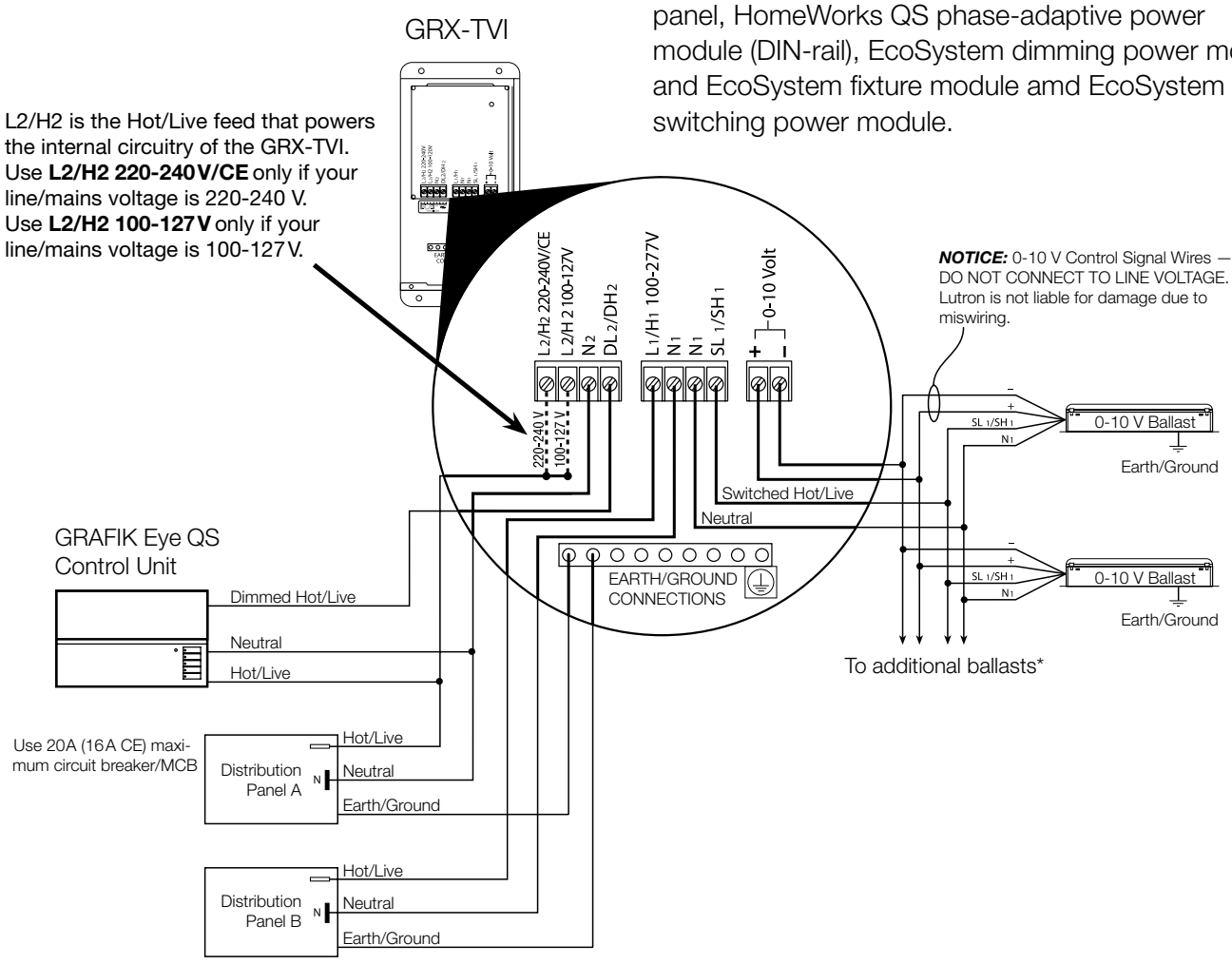
Model numbers

Interfaces

0-10 V interface	GRX-TVI
0-10 V interface for Japan	GRX-TVI-JA

Compatible with, GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem®, Energi Savr Node phase-adaptive (DIN-rail) module, GP dimming panel, LP dimming panel, LCP128 spec grade panel, LCP128 or CCP panel with dimming, adaptive dimming, relay and/or electronic low-voltage module, XP switching panel, Softswitch128 switching panel, HomeWorks QS dimmer/switch/hybrid keypad, HomeWorks QS wallbox power module, HomeWorks QS remote power panel with dimming, adaptive dimming, and/or relay module, HomeWorks QS spec grade panel, HomeWorks QS phase-adaptive power module (DIN-rail), EcoSystem dimming power module and EcoSystem fixture module amd 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 0–10 V source only.

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

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 16 A of electronic capacitive fluorescent ballasts/other loads
- Switches motors up to 0.25 HP @ 100-127 V, 0.50 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 16 A circuits of electronic dimming ballasts or five motors

Dimensions and mounting

- Width: 6.10 in (155 mm)
  Height: 12.50 in (318 mm)
  Depth: 3.30 in (84 mm)
- Wall-mount
- Requires incoming power feed wires, incoming control wires and outgoing load wires
- Approved for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

Direct lighting loads

Fluorescent/LED* (PWM)
Non-dim lighting
Motor loads
Fan loads

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

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Communication and wiring

- Separate neutrals are required for load circuit—no common neutrals
- Each terminal can accept up to two 12 AWG (2.50 mm²) conductors

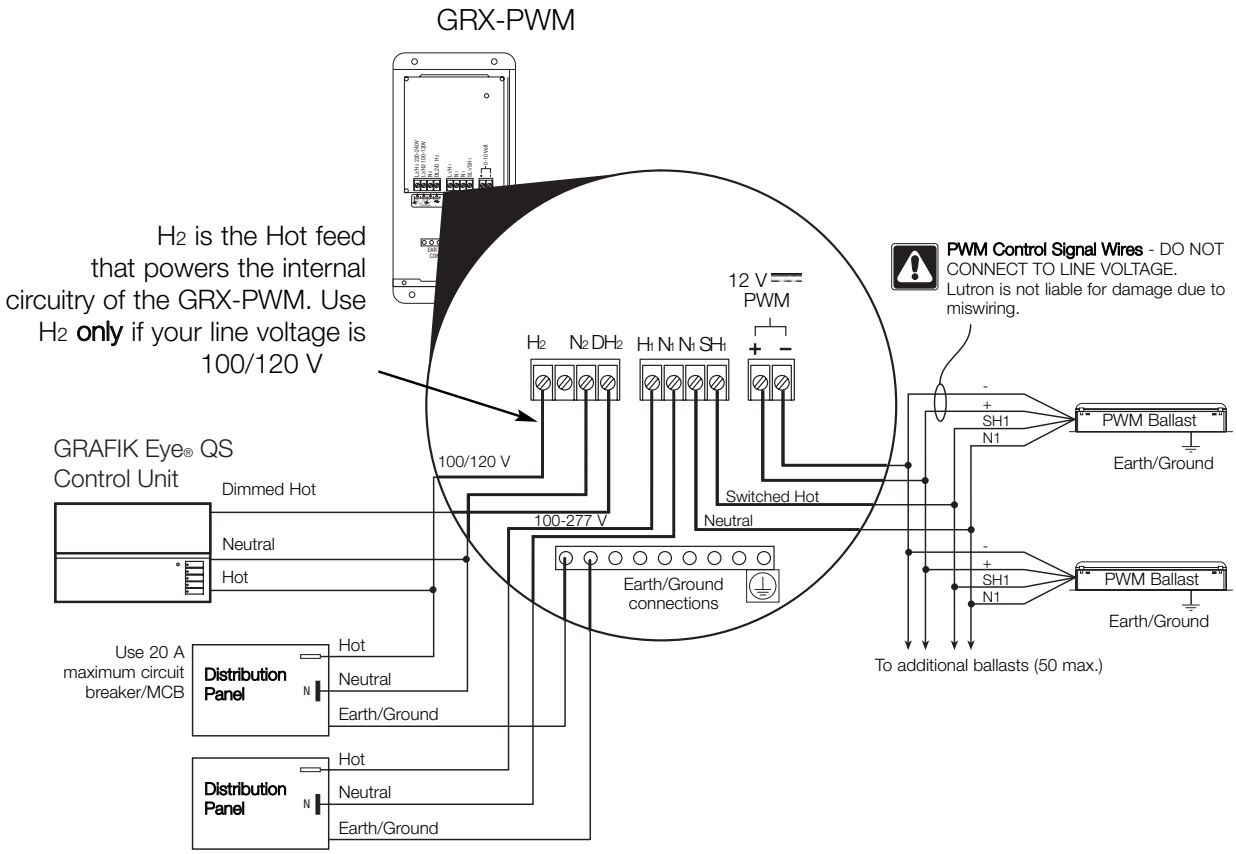
Model numbers

Interfaces

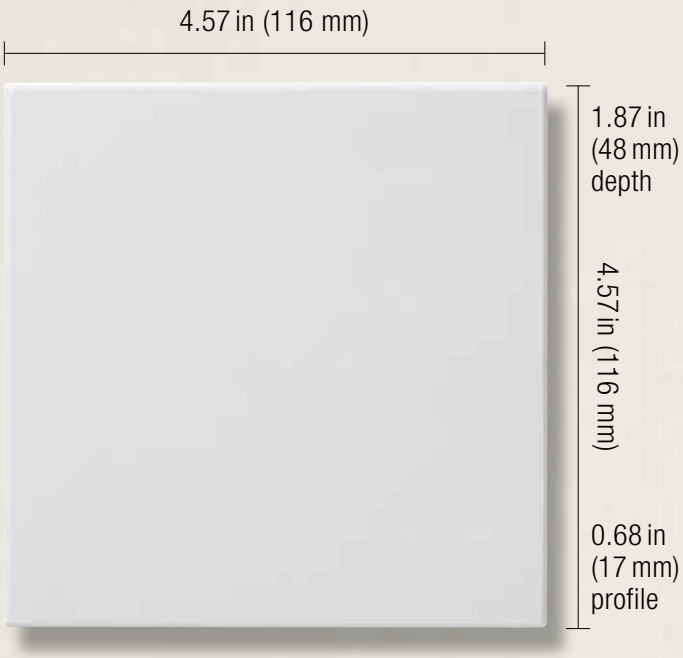
PWM interface	GRX-PWM
PWM interface for Japan	GRX-PWM-JA

Compatible with GRAFIK® Eye QS, GRAFIK Eye QS with EcoSystem, Energi Savr Node phase-adaptive (DIN-rail) module, GP dimming panel, LP dimming panel, LCP128 spec grade panel, LCP128 or CCP panel with dimming, adaptive dimming, relay, and/or electronic low-voltage module, XP switching panel, Softswitch128 switching panel, HomeWorks QS dimmer/switch/hybrid keypad, HomeWorks QS wallbox power module, HomeWorks QS remote panel with dimming, adaptive dimming, and/or relay module, HomeWorks QS spec grade panel, HomeWorks QS phase-adaptive power module (DIN-rail), EcoSystem dimming power module and EcoSystem fixture module and EcoSystem switching power module.

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



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



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 @ 50/60 Hz

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: 120 V 100 mA
- Provides capability for certain control units to control low-wattage loads from 0 W 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 10 W when the controlling dimmer is near high-end
- Does not change the approved load types of control unit, only the minimum load requirement

Dimensions and mounting

- Width: 4.57 in (116 mm)
  Height: 4.57 in (116 mm)
  Depth: 1.87 in (48 mm)
  Profile: 0.68 in (17 mm)
- Recess or surface-mount in 2-gang U.S. wallbox 3.50 in (89 mm) deep or in a 4.00 in (102 mm) x 4.00 in (102 mm) junction box, 2.10 in (53 mm) deep

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Communication and wiring

- Accepts up to two #12 AWG (2.50 mm²) wires
- Single and dual-zone wiring

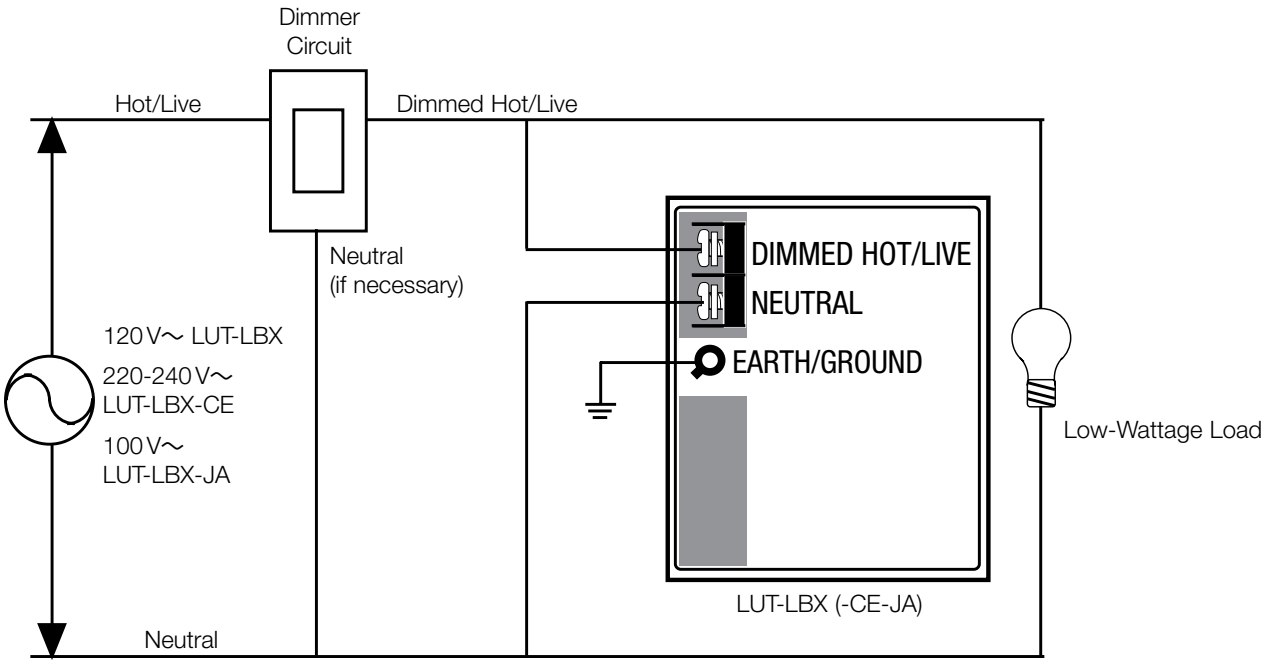
Model numbers

Interfaces

Synthetic minimum load interface 120 V	LUT-LBX-WH
Synthetic minimum load interface 220-240 V (CE)	LUT-LBX-CE-WH
Synthetic minimum load interface 100 V for Japan	LUT-LBX-JA-WH

Compatible with GRAFIK Eye® QS, GRAFIK Eye QS with EcoSystem, GP dimming panel, LCP128 spec grade dimming panel, LCP128 or CCP panel with dimming, adaptive dimming and/or electronic low-voltage module, HomeWorks QS dimmer/hybrid keypad HomeWorks QS wallbox power module, HomeWorks QS remote power panel with dimming and/or adaptive dimming module and HomeWorks QS spec grade panel.

Typical single-zone wiring



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
- Output 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 4.00 in (102 mm) x 4.00 in (102 mm) standard (1900) junction box
- Mount on a vertical or horizontal surface
- Approved for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

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Communication and wiring

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

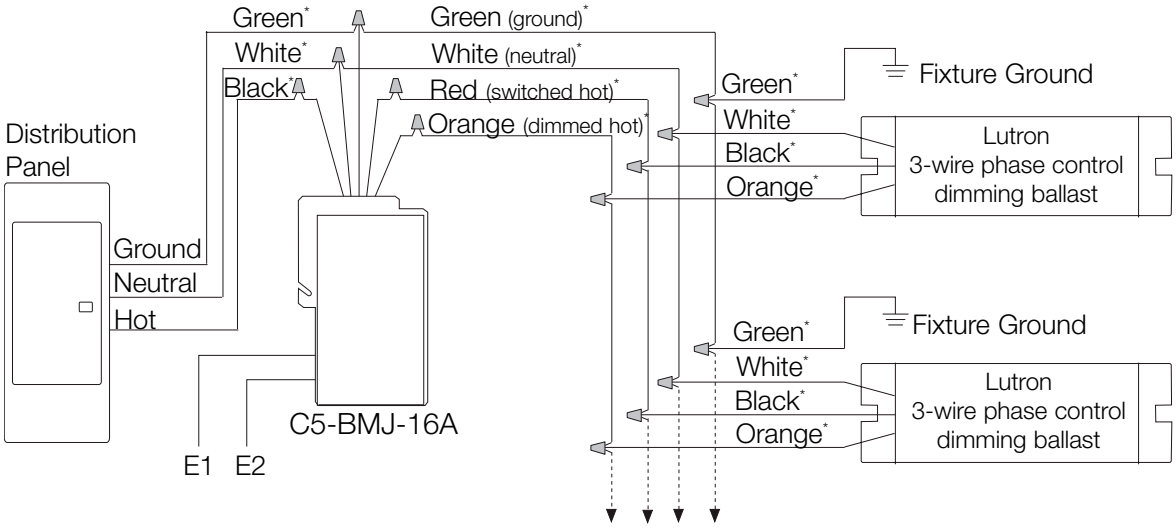
Model numbers

Modules

EcoSystem dimming power module	C5-BMJ-16A

Compatible with GRAFIK Eye® QS with EcoSystem, Energi Savr Node™ with EcoSystem and Quantum light management hub (QP2).

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.

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

Direct lighting loads

- Non-dim lighting
- Motor loads:
  0.25 HP at 100-120 V
  0.50 HP at 200-277 V
- Fan loads

Operating voltages

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

Features and capacities

- Allows integration of non-dim loads into EcoSystem digital link
- Capable of switching 16 A 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 4.00 in (102 mm) x 4.00 in (102 mm) standard (1900) junction box
- Mount on a vertical or horizontal surface
- Approved for installation in spaces designed for environmental air handling per 2011 NEC® article 300.22 (c)

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Communication and wiring

- Wiring between module and ballast shall not exceed 500 ft (150 m)
- Maximum distance from module to sensor/keypad is 100 ft (30 m)
- 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

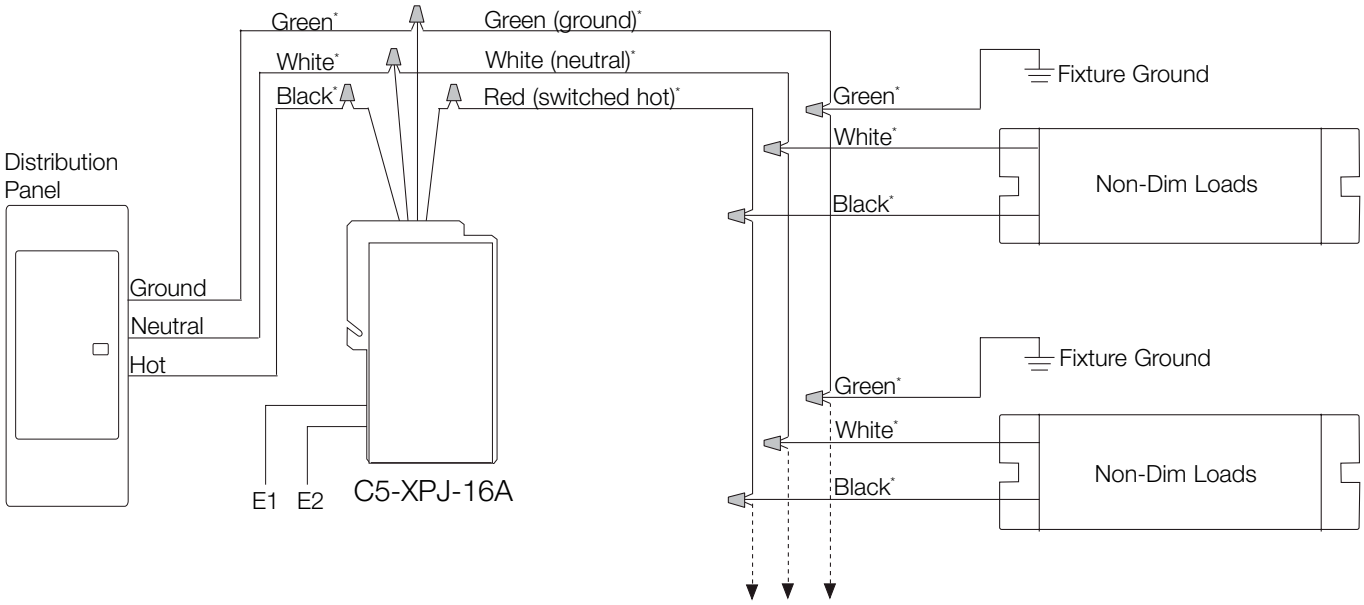
Model numbers

Module

EcoSystem switching power module	C5-XPJ-16A

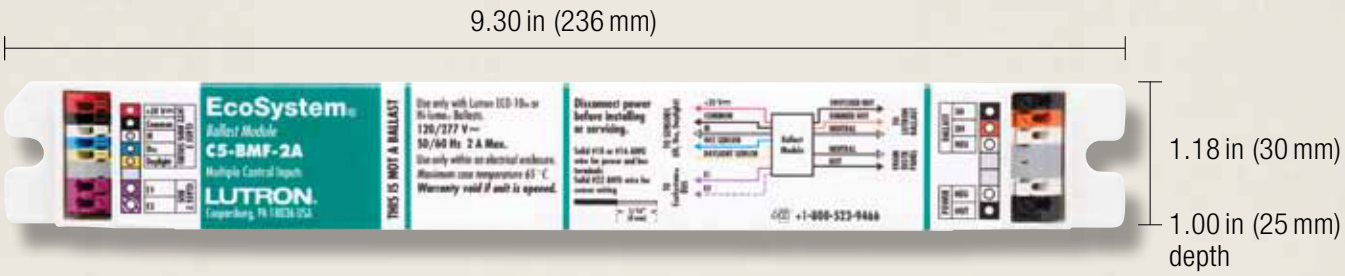
Compatible with GRAFIK Eye® QS with EcoSystem®, Energi Savr Node™ with EcoSystem, and Quantum light management hub (QP2).

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.



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

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®/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

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Communication and wiring

- Wiring between module to ballast shall not exceed 50 ft (15 m)
- Maximum distance from module to sensor/keypad is 100 ft (30 m)
- Do not exceed 2 A of ballast current per fixture module output, consult 3-wire ballast specification for ballast current draw
- Communicates status and sensor levels over the EcoSystem digital link
- E1 and E2 wires are not polarity sensitive
- Digital link length is limited by the wire gauge used for E1 and E2

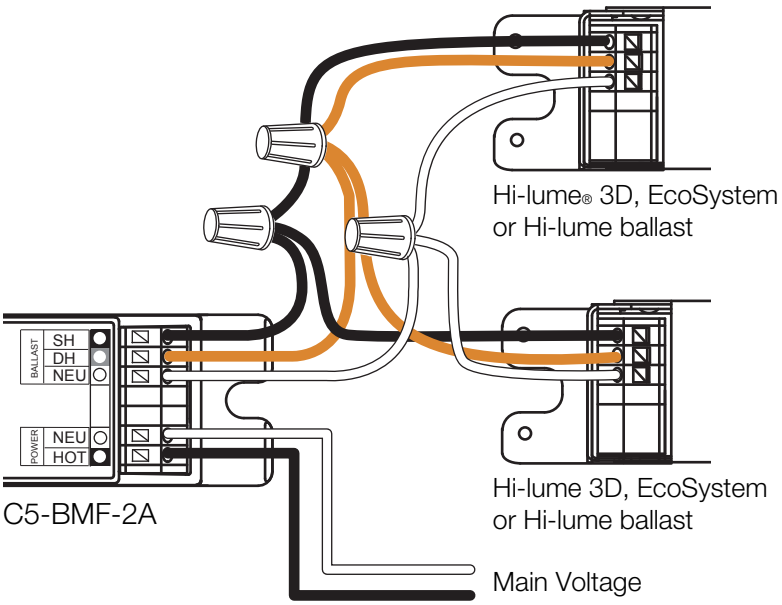
Model numbers

Modules

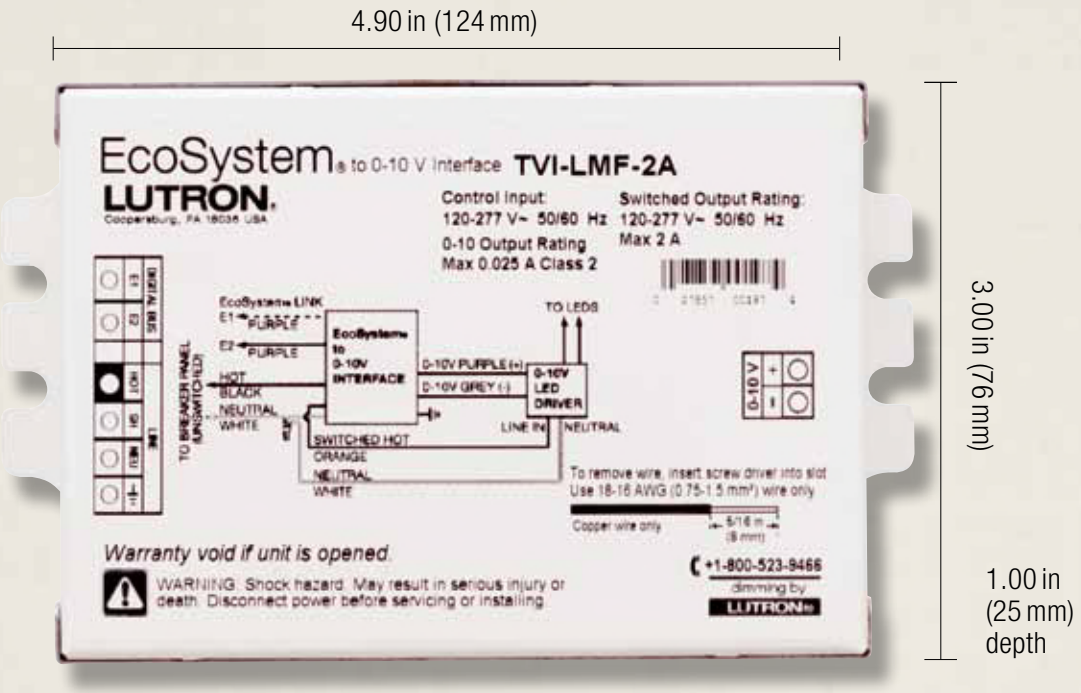
EcoSystem fixture module	C5-BMF-2A

Compatible with, GRAFIK Eye® QS with EcoSystem, Energi Savr Node™ with EcoSystem and Quantum light management hub (QP2).

Typical wiring diagram to multiple ballasts



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



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

Direct lighting loads

Fluorescent/LED (0-10 V)

Operating voltages

- 120 V, 220/240 V, or 277 V @ 50/60 Hz input
- Provides one 120 V, 220/240 V, or 277 V @ 50/60 Hz 2 A relay output

Features and capacities

- Provides a control gateway from an EcoSystem® link to a 0-10 V 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 0-10 V 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

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- Occupies one EcoSystem unit address
- 0-10 V control output current rating: 25 mA max (sink only)

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 0-10 V low-voltage IEC PELV/NEC Class 2 control output for devices compliant with IEC 60929 Annex E2 (control by DC voltage)
- EcoSystem digital link wiring connects the interface together with Lutron compatible controls with EcoSystem
- EcoSystem digital link can be wired Class 1 or IEC PELV/NEC Class 2
- Sensors cannot directly connect to the EcoSystem to 0-10 V interface

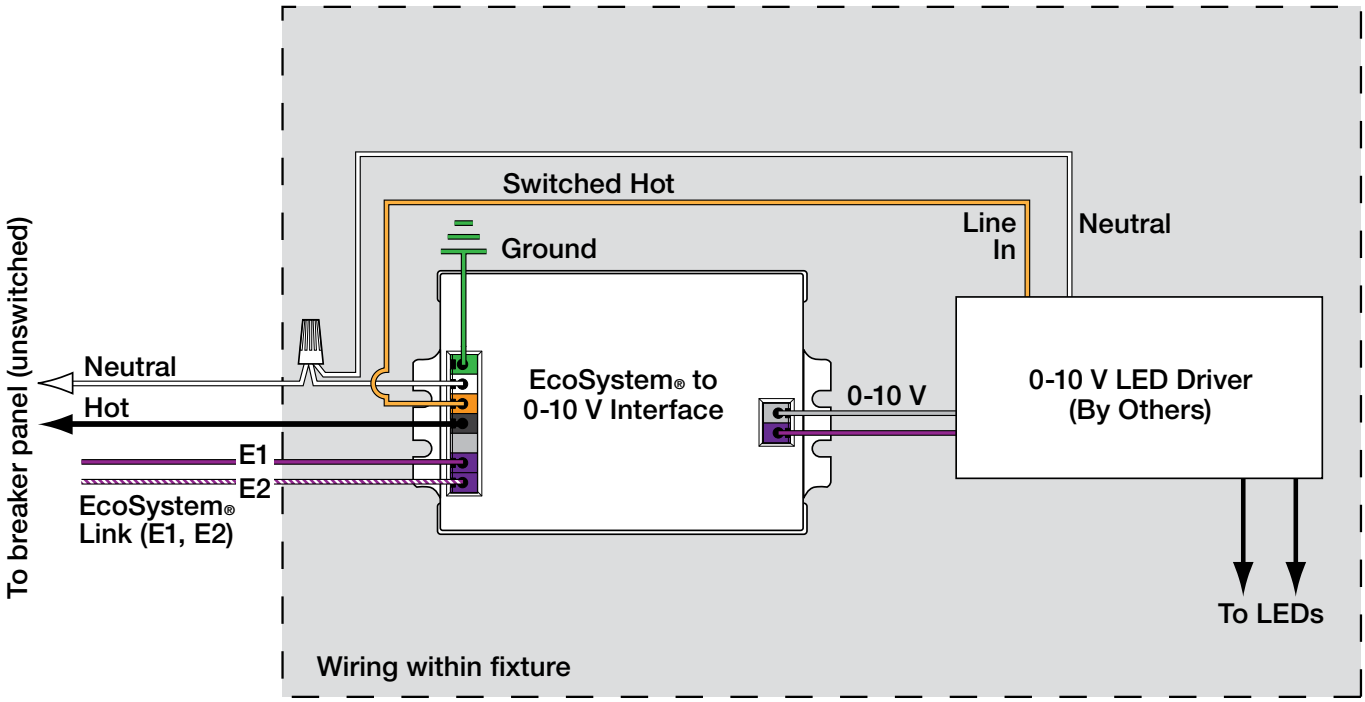
Model numbers

Interfaces

EcoSystem to 0-10 V interface	
EcoSystem to 0-10 V interface	TVI-LMF-2A

Compatible with GRAFIK Eye® QS with EcoSystem, Energi Savr Node™ with EcoSystem, and Quantum® light management hub (QP2).

Typical wiring diagram to multiple ballasts



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. 692.

Fluorescent ballasts

EcoSystem® H-Series ballasts
EcoSystem digital control
pg. 552

CE, CSA, CCC AND INMETRO MODELS AVAILABLE

Hi-lume® 3D ballasts
EcoSystem digital control
3-wire control
pg. 554

EcoSystem ballasts
EcoSystem digital control
3-wire control
pg. 556

EcoSystem ballasts for compact fluorescent lamps (CFL)
EcoSystem digital control
3-wire control
pg. 558

Hi-lume ballasts
3-wire control
pg. 560

Tu-Wire® ballasts
Tu-Wire control
pg. 562

LED drivers

Hi-lume A-Series LED drivers
EcoSystem digital control
3-wire control
2-wire forward phase control
pg. 564

EcoSystem LED drivers
EcoSystem digital control
pg. 566

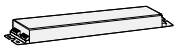
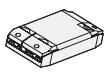
CE MODELS ONLY

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

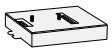
Family	Compatible Lamp Types and Wattages	Input Voltage
Fluorescent ballasts		
EcoSystem H-Series ballasts pg. 552 	• T8 linear and U-bent: 17 W, 25 W, 32 W • T5 HO linear: 24 W, 39 W, 54 W • T5 linear: 14 W, 21 W, 28 W	• UNV: 120 V, 220/240 V, 277 V @ 50/60 Hz
EcoSystem H-Series ballasts pg. 552 **Global models** 	• T8 linear: 32 W • T5 HO linear: 24 W, 39 W, 54 W • T5 linear: 14 W, 21 W, 28 W 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. 554 	• T8 linear and U-bent: 17 W, 25 W, 32 W, 40 W • T5 HO linear: 24 W, 39 W, 54 W, 80 W • T5 linear: 14 W, 21 W, 28 W • T5 twin-tube: 36 W, 40 W, 50 W	• UNV: 120 V, 220/240 V, 277 V @ 50/60 Hz
EcoSystem ballasts pg. 556 	• T8 linear and U-bent: 17 W, 25 W 32 W • T8 linear Reduced Wattage: 25 W, 28 W, 30 W • T5 HO linear: 24 W, 39 W, 54 W • T5 linear: 14 W, 21 W, 28 W, 35 W • T5 twin-tube: 36 W, 39 W, 40 W, 50 W, 55 W • T5 twin-tube Reduced Wattage: 25 W	• UNV: 120 V, 220/240 V, 277 V @ 50/60 Hz
EcoSystem compact ballasts pg. 558 	• T4 4-pin quad-tube CFL: 18 W, 26 W • T4 4-pin triple-tube CFL: 26 W, 32 W, 42 W	• UNV: 120 V, 220/240 V, 277 V @ 50/60 Hz
LED drivers		
Hi-lume® A-Series LED drivers pg. 564 	• LED light engines, up to 40 W	• UNV: 120 V, 220/240 V, 277 V @ 50/60 Hz • 120 V only for forward phase control models
EcoSystem LED drivers pg. 566 **CE model** 	• LED light engines, up to 25 W	• 220-240 V CE @ 50/60 Hz

	Control Options	Available Case Types (pgs. 548-551)		Low-end dimming level	Integral Sensor Connections
	• EcoSystem digital link	 M-case	 G-case	0.70% 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	0.70% 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 link • 3-wire • 2-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

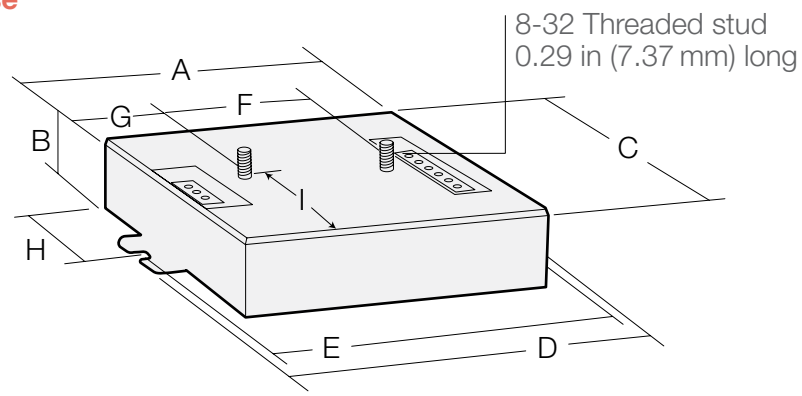
(For other 3-wire compatible ballasts, see pgs. 554, 556)

Family	Compatible Lamp Types and Wattages	Input Voltage
Fluorescent ballasts		
Hi-lume® ballasts pg. 560 	• T5 HO linear: 24 W, 39 W, 54 W • T4 4-pin triple-tube CFL: 26 W, 32 W	• 120 V, 277 V @ 60 Hz
Tu-Wire ballasts pg. 562 	• T8 linear and U-bent: 25 W, 32 W • T4 4-pin quad-tube CFL: 18 W, 26 W • T4 4-pin triple-tube CFL: 18 W, 26 W, 32 W	• 120 V @ 60 Hz

	Control Options	Available Case Types (pgs. 548-551)	Low-end dimming level	Integral Sensor Connections
	• 3-wire	 A-case  C-case	1%	No
	• Tu-Wire (fluorescent)	 A-case  B-case  C-case	5%	No

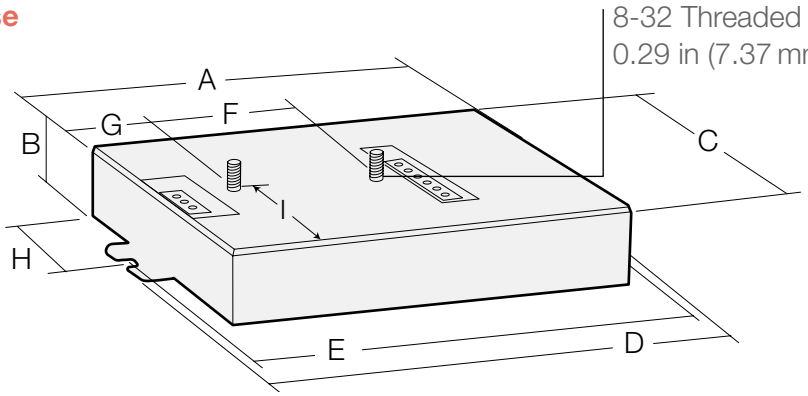
Case dimensions

A-case



A 4.20 in (107 mm)
B 1.00 in (25 mm)
C 3.00 in (76 mm)
D 4.90 in (124 mm)
E 4.60 in (117 mm) (mounting centers)
F 2.00 in (51 mm)
G 1.08 in (27 mm)
H 1.60 in (41 mm)
I 1.39 in (35 mm)

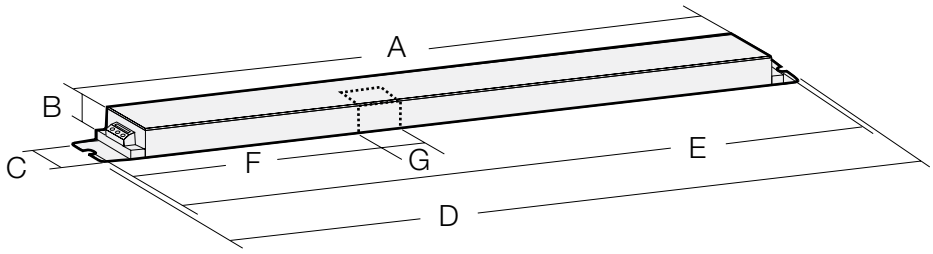
B-case



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

Case dimensions

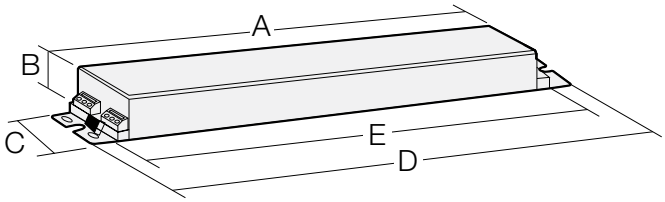
C- or J-case



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

A 16.12 in (409 mm)
B 1.00 in (25 mm)
C 1.18 in (30 mm)
D 18.00 in (457 mm)
E 17.70 in (450 mm) (mounting centers)
F 6.82 in (173 mm) (J only)
G 0.394 in (10 mm) (J only)

G-case



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)

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

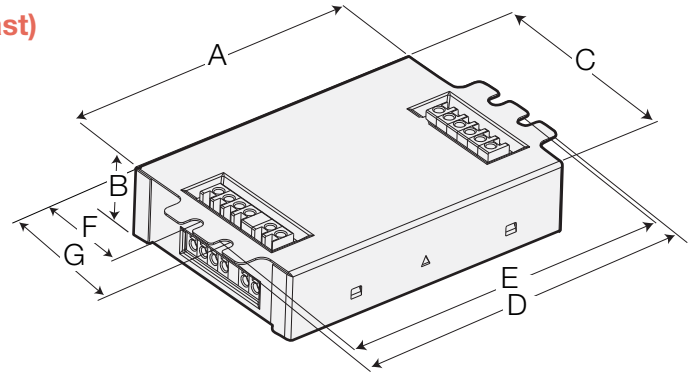
Power and control wires are 18 in (457 mm) for leaded models

If using 4-hole mount, mounting centers are 9.00 in (229 mm) x 1.06 in (27 mm).

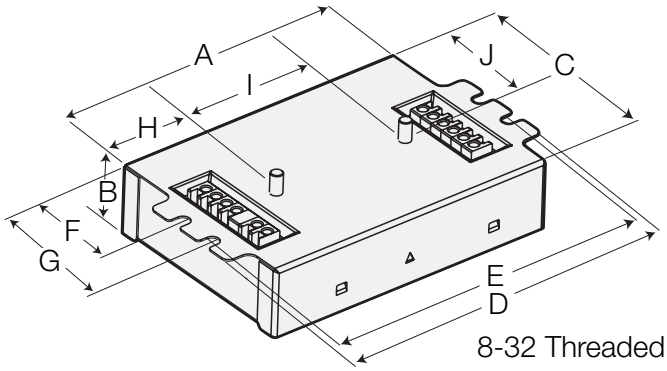
Case dimensions

K-case (Ballast)

Non-studded:



Studded:



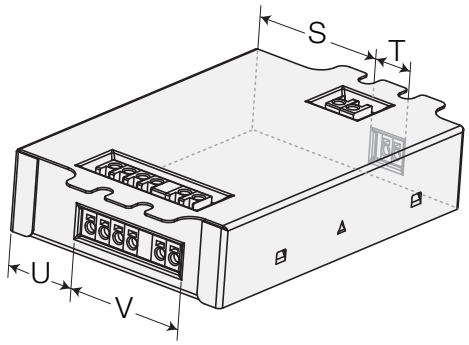
8-32 Threaded stud
0.29 in (7.37 mm) long

A 4.20 in (107 mm)
B 1.00 in (25 mm)
C 3.00 in (76 mm)
D 4.90 in (124 mm)
E 4.60 in (117 mm)
(mounting centers)
F 1.42 in (36 mm)
G 1.99 in (51 mm)

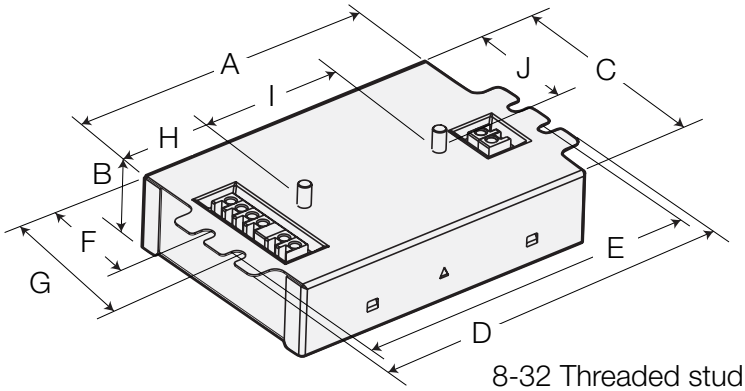
For studded models only:
H 1.09 in (28 mm)
I 2.00 in (51 mm)
J 1.60 in (41 mm)

K-case (LED Driver)

Non-studded:



Studded:



8-32 Threaded stud
0.29 in (7.37 mm) long

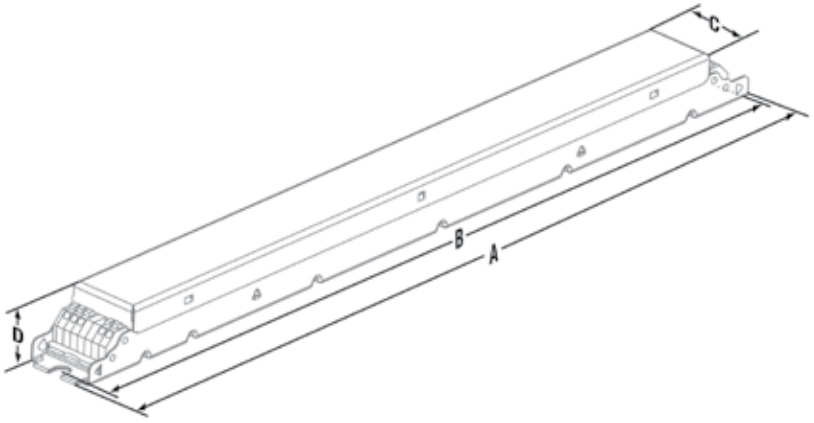
A 4.20 in (107 mm)
B 1.00 in (25 mm)
C 3.00 in (76 mm)
D 4.90 in (124 mm)
E 4.60 in (117 mm)
(mounting centers)
F 1.42 in (36 mm)
G 1.99 in (51 mm)

For studded models only:
H 1.09 in (28 mm)
I 2.00 in (51 mm)
J 1.60 in (41 mm)

For non-studded models only:
S 1.38 in (35 mm)
T 0.64 in (16 mm)
U 0.88 in (22 mm)
V 1.53 in (39 mm)

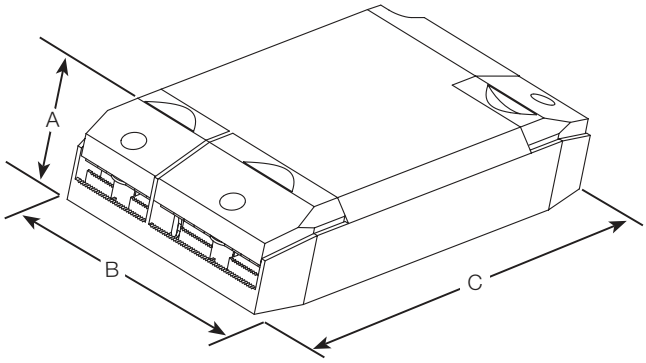
Case dimensions

M-case



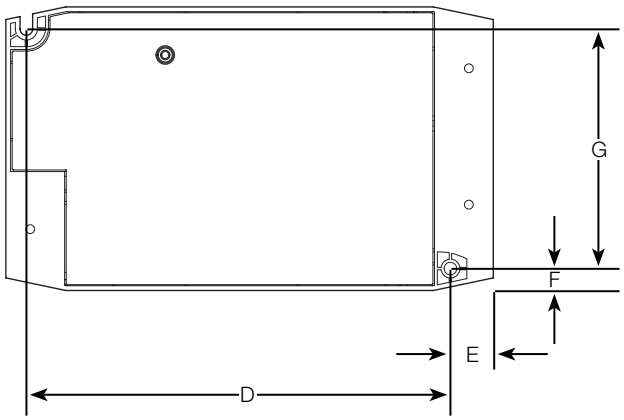
A 14.13 in (359 mm)
B 13.78 in (350 mm) (mounting centers)
C 1.18 in (30 mm)
D 0.98 in (25 mm)

P-case (International models only)



A 31.80 mm
B 90 mm
C 154.70 mm
D 134.60 mm
E 13.60 mm
F 6.95 mm
G 76.05 mm

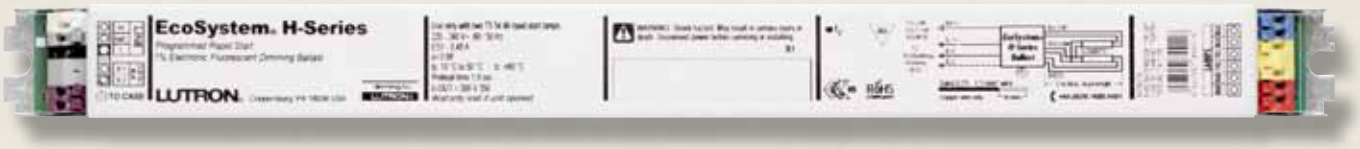
Mounting centers



Highest performance dimming to 1% at a low cost

EcoSystem digital link controlled

CE, CSA, CCC AND INMETRO MODELS AVAILABLE



Shown above: EcoSystem H-Series, M-case

Model numbers are organized by lamp type, refer to pg. 568 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: 17 W, 25 W, 32 W
- T5 HO linear: 24 W, 39 W, 54 W
- T5 linear: 14 W, 21 W, 28 W

Global models:

- T8 linear: 32 W
- T5 HO linear: 24 W, 39 W, 54 W
- T5 linear: 14 W, 21 W, 28 W

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 country-specific standards. See pg. 588 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
Download high resolution product image

Features

- Continuous, flicker-free dimming down to 0.70% 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 wall stations or infrared (IR) receivers
- The PowPak® dimming module with EcoSystem supports 32 EcoSystem ballasts or drivers, nine Pico® wireless controls, six occupancy/vacancy sensors and one 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 1.50 mm^2) solid copper or tinned stranded wire

Specifications

- Total Harmonic Distortion (THD): less than 10%
- Power factor greater than 0.95
- Ballast factor equal to 1.00 or 1.17 for T8 lamps
- Ballast factor equal to 1.00 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 120 V and 3 amps at 277 V)
- Factory-tuned ballast factors available to customize the ballast for different applications (not available for models outside the US)

Environment

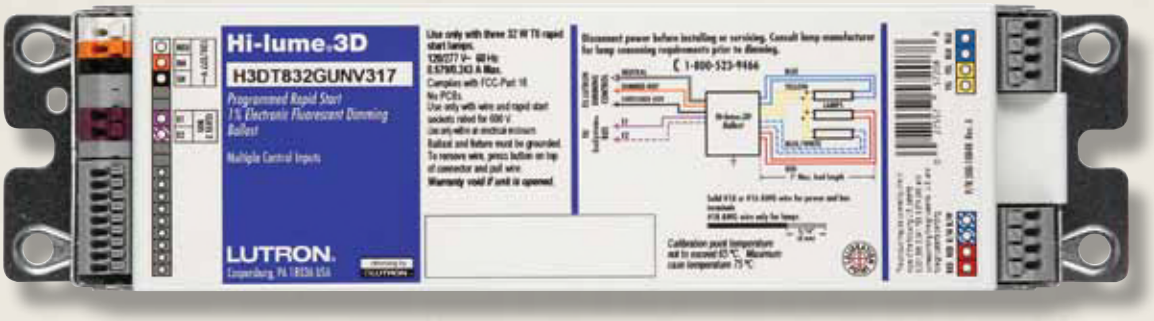
- Sound rating: Class A
- Minimum lamp starting temperature 10°C (50°F)
- Maximum ballast case temperature 75°C (167°F)

Wiring

- EcoSystem H-Series ballasts require four wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18 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. 568 for additional information.

Hi-lume 3D is a high-performance, energy-efficient, digitally addressable dimming ballast for demanding architectural applications. Hi-lume 3D is the world's first fluorescent dimming ballast that dims lights to 1% or less for T8 lamps. With Hi-lume 3D you get the highest performance fluorescent dimming with the same efficiency as non-dimmable ballasts.

Operating voltage

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

Lamp types and wattages

- T8 linear and U-bent: 17W, 25W, 32W, 40W
- T5 HO linear: 24W, 39W, 54W, 80W[1]
- T5 linear: 14W, 21W, 28W
- T5 twin tube[1]: 36W, 40W, 50W

Control options

- EcoSystem digital link
- 3-wire control

Available case types

- C-case
- G-case

Key standards

- California Energy Commission Listed
- UL Listed (evaluated to the requirements of UL 935)
- CSA certified (evaluated to the requirements of C22.2 No. 74, specific model numbers only)
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions
- Select models are NOM listed

[1]80W T5 HO model and T5 twin-tube models dim to 5%

Download specification submittal
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Features

- Industry-leading ballast efficacy of up to 100 lumens per watt
- Broadest dimming range: continuous, flicker-free dimming down to 0.70% of full light output for T8 lamps, 1% for T5 and T5 HO lamps, and 5% for T5 twin-tube and T5 HO 80 W 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, nine Pico® wireless controls, six occupancy/vacancy sensors and one 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 1.00 or 1.17 for T8 lamps
- Ballast factor equal to 1.00 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 1.50 mm^2) solid copper or tinned stranded wire

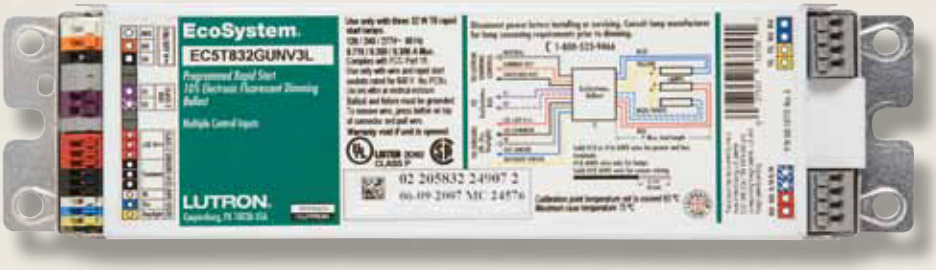
Wiring

- **EcoSystem digital link:** Hi-lume 3D ballasts require 4 wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18 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 3 ft (1 m) for T5 twin-tube lamps
- Ballast is grounded via case

Light management performance dimming to 10%

EcoSystem digital link or 3-wire controlled



Shown above: EcoSystem ballast, G-case

Model numbers are organized by lamp type, refer to pg. 568 for additional information.

EcoSystem digitally addressable dimming ballasts employ revolutionary technology allowing each device to listen, think, decide, remember, and react to its environment. EcoSystem fluorescent lighting control solutions are built on a simple building block architecture of fluorescent dimming ballasts, sensors, and controls, free from interfaces and power packs. EcoSystem redefines fluorescent lighting control as easy to design, easy to install, easy to maintain, and cost effective.

Operating voltage

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

Lamp types and wattages

- T8 linear and U-bent: 17W, 25W, 32W
- T8 linear Reduced Wattage: 25W, 28W, 30W
- T5 HO linear: 24W, 39W, 54W
- T5 linear: 14W, 21W, 28W, 35W
- T5 twin-tube: 36W, 39W, 40W, 50W, 55W
- T5 twin-tube reduced wattage: 25W

Control options

- EcoSystem digital link
- 3-Wire control

Available case types

- G-case
- J-case

Key standards

- California Energy Commission Listed
- UL Listed (evaluated to the requirements of UL 935)
- CSA Certified (evaluated to the requirements of C22.2 No. 74)
- Select models are NOM listed
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions

Download specification submittal for T4
Download specification submittal for T5 Linear
Download high resolution product image

Features

- Continuous, flicker-free dimming from 100% to 10%
- EcoSystem digital link allows for re-zoning without rewiring, and can be wired as Class 1 or Class 2—perfect for retrofit and new construction
- The EcoSystem digital link supports up to 64 digital ballasts, 64 occupancy sensors, 16 daylight sensors, and 64 wallstations or infrared (IR) receivers
- The PowPak® dimming module with EcoSystem supports 32 EcoSystem ballasts or drivers, nine Pico® wireless controls, six occupancy/vacancy sensors and one 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 wall station 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 1.00 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 1.50 mm^2) solid copper or tinned stranded wire

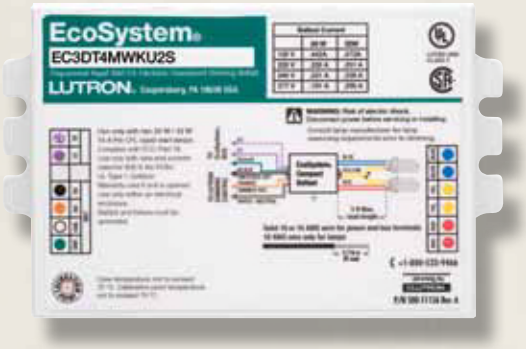
Wiring

- **EcoSystem digital link:** EcoSystem ballasts require four wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18 AWG solid copper Class 1 or Class 2 wire per terminal

  3-Wire: EcoSystem ballasts require three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18 AWG solid copper Class 1 wire per terminal
- The 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 3 ft (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. 568 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: 18 W, 26 W
- T4 4-pin triple-tube CFL: 26 W, 32 W, 42 W

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. 363
Dimming Level	5%	10%
Integral sensor connection	No	Yes
Maximum number of lamps per ballast	2	3
Maximum ballast to lamp socket lead length	3 ft (1 m)	7 ft (2 m)

Download high resolution product image

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, nine Pico® wireless controls, six occupancy/vacancy sensors and one 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 26 W and 32 W T4 lamps
- Ultra-low standby power (<1 W) 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 1.50 mm^2) solid copper or tinned stranded wire

Wiring

- **EcoSystem digital link:** EcoSystem compact ballasts require four wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18 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. 568 for additional information.

Experience the benefits of full-range, 100% to 1% fluorescent dimming. Designed to meet the most demanding lighting requirements, Hi-lume ballasts enable you to provide the ideal visual environment for any application. The Hi-lume family is extensive, featuring the world's only 100% to 1% dimming ballasts for T4 compact fluorescent lamps. Integrating Hi-lume 1% technology into your designs affords you full control over the lighting in any space.

Operating voltage

- 120V or 277V @ 60Hz

Lamp types and wattages

- T5 HO: 24W, 39W, 54W
- T4 4-pin triple-tube CFL: 26W, 32W

Control options

- 3-wire control

Available case types

- A-case
- C-case

Key standards

- California Energy Commission Listed
- UL Listed (evaluated to the requirements of UL 935)
- CSA certified (evaluated to the requirements of C22.2 No. 74)
- MIL Std. 461E compliant (meets the requirements of CE101, RE101 and RE102)
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions

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Features

- Continuous, flicker-free dimming from 100% to 1%
- Ballasts maintain consistent light output for different lamp lengths, ensuring fixture-to-fixture uniformity
- 3-wire line voltage control for consistent fixture-to-fixture dimming
- Sensors cannot connect directly to Hi-lume ballasts
- Line-voltage miswire protection
- Slim-profile design
- Lamps turn on at any dimmed level without going to full brightness
- 100% performance-tested, including burn-in at the factory

Specifications

- Total Harmonic Distortion (THD): less than 10%
- Power factor greater than 0.95
- Ballast factor equal to 0.95 for T4 lamps
- Ballast factor equal to 1.00 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

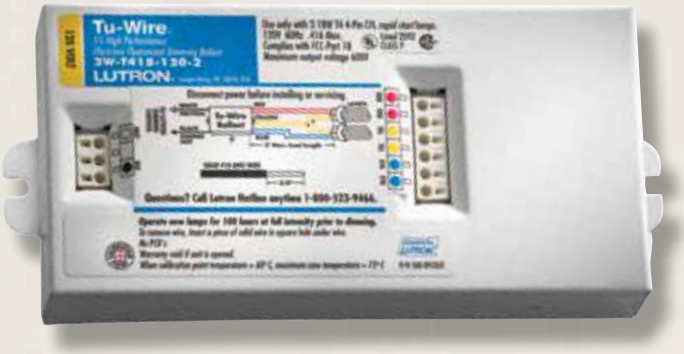
- Ballast mounts using two screws (or sheet metal feature and one screw) within a fluorescent fixture
- Ballast is grounded via a mounting screw to the fixture
- Lutron® and NEMA® recommend sockets complying with IEC 60400. Sockets must have a UL mark as well. Use rapid start sockets, not instant start sockets.
- Terminals accept 16-18 AWG (0.75 to 1.50 mm^2) solid copper or tinned stranded wire

Wiring

- 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 7 ft (2 m) for T5 HO linear lamps, and 3 ft (1 m) 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. 568 for additional information.

Tu-Wire ballasts offer high performance 100% to 5% dimming for linear and compact fluorescent lamps. Retrofit applications can benefit from the ease of installation offered by Lutron Tu-Wire dimming ballasts. Tu-Wire ballasts require only two wires (dimmed hot and neutral) for power and control. Lutron offers a wide range of compatible Tu-Wire controls, making Tu-Wire ballasts the perfect choice for many applications. Additionally, one-lamp T4 models have been designed to meet FCC Part 18 consumer requirements for residential applications.

Operating voltage

- 120V @ 60Hz

Lamp types and wattages

- T8 linear and U-bent: 25W, 32W
- T4 4-pin quad-tube CFL: 18W, 26W
- T4 4-pin triple-tube CFL: 18W, 26W, 32W

Control option

- Tu-Wire control

Available case types

- A-case
- B-case
- C-case

Key standards

- California Energy Commission (CEC) Listed
- UL Listed (evaluated to the requirements of UL 935)
- CSA certified (evaluated to the requirements of C22.2 No. 74)—all models except T8 25W
- 1-lamp ballasts for T4 CFL meet FCC Part 18 requirements for residential use
- Meets FCC Part 18 Non-Consumer requirements for EMI/RFI emissions

Download specification submittal
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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 1.00 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

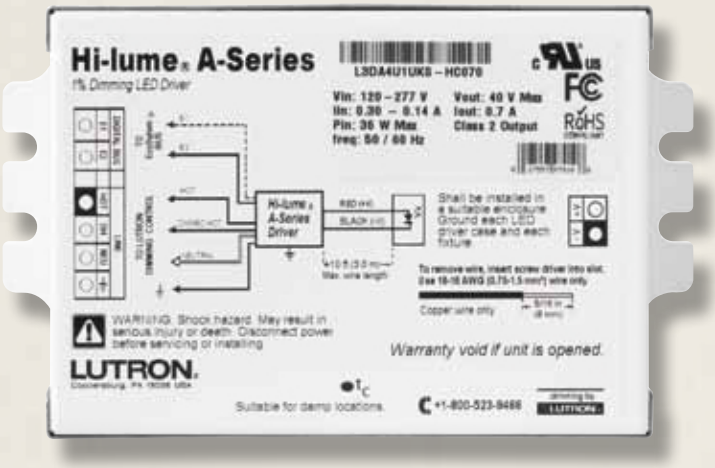
- Ballast mounts using two mounting tabs or studs within a fluorescent fixture
- Lutron and NEMA® recommend sockets complying with IEC 60400. Sockets must have a UL mark as well. Use rapid start sockets, not instant start sockets.
- Terminals accept 16-18 AWG (0.75 to 1.50 mm^2) solid copper or tinned stranded wire

Wiring

- 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 7 ft (2 m) for T8 lamps and 3 ft (1 m) for T4 compact lamps
- Ballast is grounded via case

Highest performance dimming to 1%

EcoSystem® digital link, 3-wire or 2-wire forward phase controlled



Shown above: Hi-lume A-Series LED driver, K-case

Model number is determined by load and control type. See pg. 591 for additional information.

Hi-lume A-Series is a high-performance LED driver that provides smooth, continuous 1% dimming for virtually any LED fixture, whether it requires constant current or constant voltage. It is the world's most versatile LED driver family offered today due to the wide variety of compatible LED arrays, multiple form factors and numerous control options.

Operating Voltage

- Universal input (120V, 220/240V and 277V @ 50/60Hz)
- 120V only for 2-wire forward phase models

Control options

- 2-Wire forward phase control (neutral required at control)*
- EcoSystem digital link
- 3-wire control

Lamp types and wattages

- LED light engines, up to 40W*

Available case types

- K-case
- M-case

LED operating specifications

Constant Current

- 200mA-2.10A (in 10mA steps)
- 5W-40W
- Pulse width modulation (PWM) or constant current reduction (CCR) dimming

Constant Voltage

- 10V-40V (in 0.50V 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**

Key standards

- UL 8750 Recognized
- FCC Part 15 compliant for commercial applications at 120V or 277V and for residential applications at 120V
- Meets ANSI C62.41 category A surge protection standards up to and including 4kV
- Models available to meet LED Driver requirements for Energy Star 1.10

Features

- Continuous, flicker-free dimming from 100% to 1%
- Efficiency greater than 80% at 40W
- A rated lifetime of 50,000 hours
- EcoSystem digital link allows for re-zoning without rewiring, and can be wired as Class 1 or Class 2—perfect for retrofit and new construction
- Standard 3-wire line-voltage phase-control technology for consistent dimming performance and compatibility with all Lutron 3-wire fluorescent dimmers
- CCR and PWM dimming available for constant current light engines; constant voltage light engines operate with pulse width modulation (PWM) dimming only
- Sensors cannot connect directly to the driver
- Line-voltage miswire protection
- Instant light output at any level when turned on, without flashing to full on

Specifications

- Power factor greater than 0.90 at 40W
- Inrush current less than 2A

Environment

- Sound rating: Class A
- Maximum case temperature is 65°C (149°F)

Mounting

- K-case driver typically mounts via studs or tabs to the outside of an LED fixture or on a junction box
- “No studs” case option available
- Any fixture type (downlight, cove light, sconce, under-cabinet, etc.) will work with the Hi-lume A-Series driver family, if the LED light engine operates at either the constant current or constant voltage levels specified

Wiring

- **EcoSystem digital link:** Hi-lume A-Series LED drivers require 4 wires plus Ground (E1, E2, Constant Hot and Neutral); one 16-18AWG solid copper Class 1 or Class 2 wire per terminal

  3-Wire: Requires three wires plus Ground (Dimmed Hot, Switched Hot and Neutral); one 16-18AWG solid copper Class 1 wire per terminal

  2-Wire forward phase: Requires two wires plus Ground (Dimmed Hot and Neutral); one 16-18AWG solid copper Class 1 or Class 2 wire per terminal
- The 16AWG control wire must not exceed 900ft, and the 18AWG must not exceed 550ft; maximum driver-to-LED light engine wire length is 10ft (3m)
- Driver is grounded by a mounting screw to the grounded fixture (or by terminal connection on the K-case)

Highest performance dimming to 1%

EcoSystem digital link controlled

CE MODELS ONLY

Shown above: EcoSystem LED driver, P-case

Model number is determined by load and control type. See pg. 591 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 25 W

Available case types

- P-case

LED operating specifications

Constant Current

- 0.20 A-1.05 A (in 0.01 A increments)
- 5 W-25 W
- Pulse width modulation (PWM) or constant current reduction (CCR) dimming

Constant Voltage

- 8 V-38 V (in 0.50 V increments)
- 5 W-25 W
- PWM dimming

Download specification submittal

Key standards

- CE and ENEC Mark
- RoHS 2006 Compliant
- IEC Rated

Features

- Continuous, flicker-free dimming from 100% to 1%
- Efficiency of 80% at 25 W
- 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 25 W
- 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

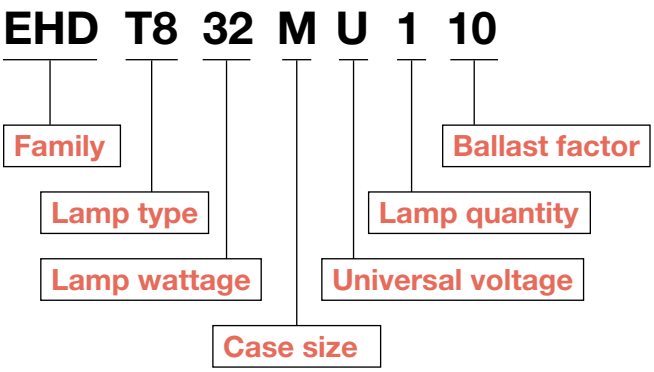
Wiring

- EcoSystem LED drivers require four wires plus Ground (E1, E2, Live and Neutral); one 0.75 mm^2 to 1.50 mm^2 solid copper Class 1 or Class 2 wire per terminal
- The 1.50 mm^2 control wire must not exceed 310 m, and the 0.75 mm^2 must not exceed 50 m; maximum driver-to-LED light engine wire length is 3 m for any output type

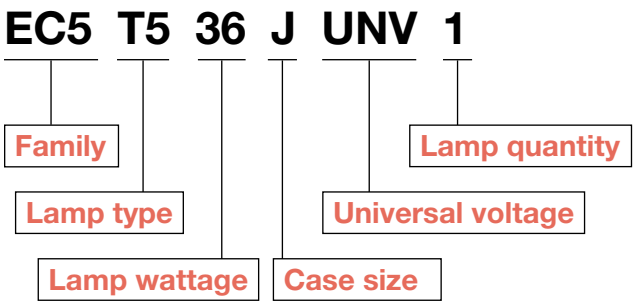
Understanding ballast model numbers

Lutron ballast model numbers are designed to illustrate basic information about the ballast. For example:

EcoSystem® H-Series ballasts



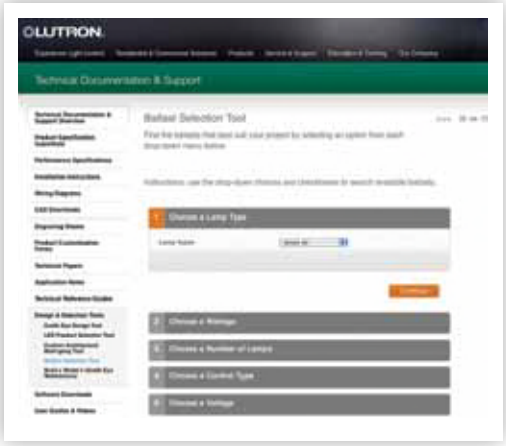
EcoSystem ballasts



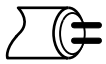
Generate part numbers, confirm ballast performance specifications (input power, system lumens, ballast factor) and select the proper ballast by utilizing the Ballast Selection Tool.

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.

NEW



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 

EcoSystem® H-Series (1% or less dimming) universal voltage digital dimming ballasts

- Dimming to 1% or less
- Compatible with Lutron EcoSystem digital controls
- Energy saving and cost effective

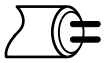
Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
17W (24 in)	1	**EHD T817 M U 1 10**	M	277	0.08	22.20	1.00	1,300	90	4.51	0.77
				240	0.09	21.60	1.00	1,300	93	4.63	0.79
				120	0.18	21.60	1.00	1,300	93	4.63	0.79
	2	**EHD T817 M U 2 10**	M	277	0.15	41.60	1.00	2,600	96	2.41	0.82
				240	0.18	43.20	1.00	2,600	93	2.31	0.79
				120	0.35	42.00	1.00	2,600	95	2.38	0.81
25W (36 in)	1	**EHD T825 M U 1 10**	M	277	0.11	30.50	1.00	1,900	62	3.28	0.82
				240	0.11	26.40	1.00	1,900	72	3.79	0.95
				120	0.26	31.20	1.00	1,900	61	3.21	0.80
	2	**EHD T825 M U 2 10**	M	277	0.20	55.40	1.00	3,800	69	1.81	0.90
				240	0.23	55.20	1.00	3,800	69	1.81	0.91
				120	0.47	56.40	1.00	3,800	67	1.77	0.89
32W (48 in)	1	**EHD T832 M U 1 10**	M	277	0.12	33.20	1.00	3,000	90	3.01	0.96
				240	0.14	33.60	1.00	3,000	89	2.98	0.95
				120	0.29	34.80	1.00	3,000	86	3.01	0.92
		EHD T832 M U 1 17	M	277	0.15	41.60	1.17	3,510	84	2.82	0.92
				240	0.17	40.80	1.17	3,510	86	2.87	0.92
				120	0.34	40.80	1.17	3,510	86	2.87	0.90
	2	**EHD T832 M U 2 10**	M	277	0.24	66.50	1.00	6,000	90	1.50	0.96
				240	0.28	67.20	1.00	6,000	89	1.49	0.95
				120	0.57	68.40	1.00	6,000	88	1.46	0.94
		EHD T832 M U 2 17	M	277	0.28	77.60	1.17	7,020	91	1.51	0.97
				240	0.32	76.80	1.17	7,020	91	1.52	0.98
				120	0.65	78.00	1.17	7,020	90	1.50	0.96
	3	**EHD T832 G U 3 10**	G	277	0.37	93.50	1.00	9,000	96	1.07	1.03
				240	0.40	94.90	1.00	9,000	95	1.05	1.01
				120	0.83	95.40	1.00	9,000	94	1.05	1.01
		EHD T832 G U 3 17	G	277	0.41	105.70	1.17	10,530	100	1.11	1.06
				240	0.47	106.50	1.17	10,530	99	1.10	1.05
				120	0.95	106.80	1.17	10,530	99	1.10	1.05

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

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 (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
17W (24 in)	1	H3D T817 C U 1 10 H3D T817 G U 1 10	C G	277	0.08	22.20	1.00	1,300	59	4.51	0.77
				240	0.09	21.60	1.00	1,300	60	4.63	0.79
				120	0.18	21.60	1.00	1,300	60	4.63	0.79
		H3D T817 C U 1 17 H3D T817 G U 1 17	C G	277	0.08	22.20	1.17	1,521	69	5.28	0.90
				240	0.10	24.00	1.17	1,521	63	4.88	0.83
				120	0.19	22.80	1.17	1,521	67	5.13	0.87
	2	H3D T817 C U 2 10 H3D T817 G U 2 10	C G	277	0.15	41.60	1.00	2,600	63	2.41	0.82
				240	0.18	43.20	1.00	2,600	60	2.31	0.79
				120	0.35	42.00	1.00	2,600	62	2.38	0.81
		H3D T817 C U 2 17 H3D T817 G U 2 17	C G	277	0.15	41.60	1.17	3,042	73	2.82	0.96
				240	0.17	40.80	1.17	3,042	75	2.87	0.98
				120	0.35	42.00	1.17	3,042	72	2.79	0.95
	3	H3D T817 G U 3 10	G	277	0.21	58.20	1.00	3,900	67	1.72	0.88
				240	0.25	60.00	1.00	3,900	65	1.67	0.85
				120	0.48	57.60	1.00	3,900	68	1.74	0.89
		H3D T817 G U 3 17	G	277	0.23	63.70	1.17	4,563	72	1.84	0.94
				240	0.27	64.80	1.17	4,563	70	1.81	0.92
				120	0.55	66.00	1.17	4,563	69	1.77	0.90
25W (36 in)	1	H3D T825 C U 1 10	C	277	0.11	30.50	1.00	1,900	62	3.28	0.82
				240	0.11	26.40	1.00	1,900	72	3.79	0.95
				120	0.26	31.20	1.00	1,900	61	3.21	0.80
		H3D T825 C U 1 17	C	277	0.12	33.20	1.17	2,223	67	3.52	0.88
				240	0.14	33.60	1.17	2,223	66	3.48	0.87
				120	0.28	33.60	1.17	2,223	66	3.48	0.87
	2	H3D T825 C U 2 10	C	277	0.20	55.40	1.00	3,800	69	1.81	0.90
				240	0.23	55.20	1.00	3,800	69	1.81	0.91
				120	0.47	56.40	1.00	3,800	67	1.77	0.89
		H3D T825 C U 2 17	C	277	0.22	60.90	1.17	4,446	73	1.92	0.96
				240	0.25	60.00	1.17	4,446	74	1.95	0.98
				120	0.51	61.20	1.17	4,446	73	1.91	0.96

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

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

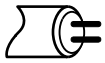
Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
32W (48 in)	1	H3D T832 C U 1 10 H3D T832 G U 1 10	C G	277	0.12	33.20	1.00	3,000	90	3.01	0.96
				240	0.14	33.60	1.00	3,000	89	2.98	0.95
				120	0.29	34.80	1.00	3,000	86	2.87	0.92
		H3D T832 C U 1 17 H3D T832 G U 1 17	C G	277	0.15	41.60	1.17	3,510	84	2.82	0.90
				240	0.17	40.80	1.17	3,510	86	2.87	0.92
				120	0.34	40.80	1.17	3,510	86	2.87	0.92
	2	H3D T832 C U 2 10 H3D T832 G U 2 10	C G	277	0.24	66.50	1.00	6,000	90	1.50	0.96
				240	0.28	67.20	1.00	6,000	89	1.49	0.95
				120	0.57	68.40	1.00	6,000	88	1.46	0.94
		H3D T832 C U 2 17 H3D T832 G U 2 17	C G	277	0.28	77.60	1.17	7,020	91	1.51	0.97
				240	0.32	76.80	1.17	7,020	91	1.52	0.98
				120	0.65	78.00	1.17	7,020	90	1.50	0.96
	3	H3D T832 G U 3 10	G	277	0.37	102.50	1.00	9,000	88	0.98	0.94
				240	0.40	96.00	1.00	9,000	94	1.04	1.00
				120	0.83	99.60	1.00	9,000	90	1.00	0.96
		H3D T832 G U 3 17	G	277	0.41	113.60	1.17	10,530	93	1.03	0.99
				240	0.47	112.80	1.17	10,530	93	1.04	1.00
				120	0.95	114.00	1.17	10,530	92	1.03	0.99
40W (60 in)	1	H3D T840 C U 1 10	C	277	0.16	42.80	1.00	3,800	89	2.34	0.94
				240	0.18	43.00	1.00	3,800	88	2.33	0.93
				120	0.37	43.80	1.00	3,800	87	2.28	0.91
		H3D T840 C U 1 17	C	277	0.18	49.60	1.17	4,446	90	2.36	0.94
				240	0.21	49.40	1.17	4,446	90	2.37	0.95
				120	0.43	50.60	1.17	4,446	88	2.31	0.92
	2	H3D T840 C U 2 10	C	277	0.32	88.90	1.00	7,600	86	1.13	0.90
				240	0.37	88.40	1.00	7,600	86	1.13	0.91
				120	0.77	90.90	1.00	7,600	84	1.10	0.88
		H3D T840 C U 2 17	C	277	0.36	98.20	1.17	8,892	91	1.19	0.95
				240	0.41	97.20	1.17	8,892	92	1.20	0.96
				120	0.84	100.30	1.17	8,892	89	1.17	0.93

Refer to the online ballast selection tool for additional information, www.lutron.com/BallastTool

*For case type information see pgs. 548-551.

**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) 120V dimming ballasts

- Dimming to 5%
- Compatible with Lutron Tu-Wire fluorescent controls
- Energy saving

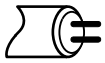
Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
25W (36 in)	1	**2W-T825-120-1**	C	120	0.30	36.00	0.85	1,828	51	2.36	0.76
	2	**2W-T825-120-2**	C	120	0.50	60.00	0.85	3,655	61	1.42	0.91
32W (48 in)	1	**2W-T832-120-1**	C	120	0.37	44.40	0.85	2,550	57	1.91	0.61
	2	**2W-T832-120-2**	C	120	0.70	84.00	0.85	5,100	61	1.01	0.65

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

†Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T8 and U-bent (continued)



EcoSystem® (10% dimming) universal voltage digital dimming ballasts

- Dimming to 10%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Integral sensor connections

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
17W (24 in)	1	EC5 T817 J UNV 1	J	277	0.08	20.60	0.85	1,190	58	4.13	0.70
				240	0.08	20.00	0.85	1,190	60	4.25	0.72
				120	0.17	20.10	0.85	1,190	59	4.23	0.72
	2	EC5 T817 J UNV 2	J	277	0.13	36.20	0.85	2,380	66	2.35	0.80
				240	0.15	37.00	0.85	2,380	64	2.30	0.78
				120	0.31	37.00	0.85	2,380	64	2.30	0.78
25W (36 in)	1	EC5 T825 J UNV 1	J	277	0.10	27.60	0.85	1,828	66	3.08	0.77
				240	0.11	27.00	0.85	1,828	68	3.15	0.79
				120	0.23	26.90	0.85	1,828	68	3.16	0.79
	2	EC5 T825 J UNV 2	J	277	0.18	48.90	0.85	3,665	75	1.74	0.87
				240	0.20	49.00	0.85	3,665	75	1.73	0.87
				120	0.41	49.00	0.85	3,665	75	1.73	0.87
32W (48 in)	1	EC5 T832 J UNV 1	J	277	0.11	31.60	0.85	2,550	81	2.69	0.86
				240	0.13	31.00	0.85	2,550	82	2.74	0.87
				120	0.26	31.30	0.85	2,550	81	2.72	0.87
	2	EC5 T832 J UNV 2	J	277	0.21	57.40	0.85	5,100	89	1.48	0.95
				240	0.25	59.00	0.85	5,100	86	1.44	0.92
				120	0.49	59.10	0.85	5,100	86	1.44	0.92
		EC5 T832 G UNV 2L††	G	277	0.22	59.60	0.85	5,100	86	1.43	0.91
				240	0.25	57.60	0.85	5,100	89	1.48	0.94
				120	0.49	58.80	0.85	5,100	87	1.45	0.93
	3	EC5 T832 G UNV 3L††	G	277	0.31	86.50	0.85	7,650	88	0.98	0.94
				240	0.36	84.00	0.85	7,650	89	1.01	0.97
				120	0.72	85.90	0.85	7,650	89	0.99	0.95
		EC5 T832 G UNV 317L††	G	277	0.41	105.70	1.17	10,530	100	1.11	1.06
				240	0.47	106.50	1.17	10,530	99	1.10	1.05
				120	0.95	106.80	1.17	10,530	99	1.10	1.05

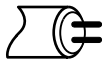
Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

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 

EcoSystem® (10% dimming) universal voltage digital dimming ballasts

- Dimming to 10% for reduced wattage (energy saving) lamps
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Integral sensor connections

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
25 W (48 in)	1	EC5 T8RW J UNV 1	J	277	0.09	24.80	0.85	2,061	83	3.43	0.86
				240	0.10	24.50	0.85	2,061	84	3.47	0.87
				120	0.21	24.90	0.85	2,061	83	3.41	0.85
	2	EC5 T8RW J UNV 2	J	277	0.17	46.60	0.85	4,123	88	1.82	0.91
				240	0.19	45.90	0.85	4,123	90	1.85	0.93
				120	0.38	46.50	0.85	4,123	89	1.83	0.91
	3	EC5 T8RW G UNV 3L††	G	277	0.25	67.90	0.85	6,184	91	1.25	0.94
				240	0.28	67.40	0.85	6,184	92	1.26	0.95
				120	0.58	69.00	0.85	6,184	90	1.23	0.92
28 W (48 in)	1	EC5 T8RW J UNV 1	J	277	0.10	26.30	0.85	2,202	84	3.23	0.90
				240	0.11	26.20	0.85	2,202	84	3.24	0.91
				120	0.22	26.50	0.85	2,202	83	3.21	0.90
	2	EC5 T8RW J UNV 2	J	277	0.18	48.90	0.85	4,403	90	1.74	0.97
				240	0.20	48.60	0.85	4,403	91	1.75	0.98
				120	0.42	50.00	0.85	4,403	88	1.70	0.95
	3	EC5 T8RW G UNV 3L††	G	277	0.26	71.10	0.85	6,605	93	1.20	1.00
				240	0.30	70.40	0.85	6,605	94	1.21	1.01
				120	0.60	71.60	0.85	6,605	92	1.19	1.00
30 W (48 in)	1	EC5 T8RW J UNV 1	J	277	0.11	28.90	0.85	2,350	81	2.94	0.88
				240	0.12	28.70	0.85	2,350	82	2.96	0.89
				120	0.24	29.20	0.85	2,350	80	2.91	0.87
	2	EC5 T8RW J UNV 2	J	277	0.19	52.50	0.85	4,701	90	1.62	0.97
				240	0.22	52.50	0.85	4,701	90	1.62	0.97
				120	0.44	53.40	0.85	4,701	88	1.59	0.96
	3	EC5 T8RW G UNV 3L	G	277	0.28	76.30	0.85	7,051	92	1.11	1.00
				240	0.32	76.30	0.85	7,051	92	1.11	1.00
				120	0.65	78.10	0.85	7,051	90	1.09	0.98

Please consult lamp manufacturer's specification to determine the dimmability of the reduced wattage lamp.

Refer to the online ballast selection tool for additional information, www.lutron.com/BallastTool

*For case type information see pgs. 548-551.

**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

EcoSystem H-Series (1% dimming) universal voltage digital dimming ballasts

- Dimming to 1%
- Compatible with Lutron EcoSystem digital controls
- Energy saving and cost effective

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
14 W (21.6 in)	1	**EHD T514 M U 1 10**	M	277	0.07	19.40	1.00	1,350	70	5.16	0.72
				240	0.08	19.20	1.00	1,350	70	5.21	0.73
				120	0.16	19.20	1.00	1,350	70	5.21	0.73
	2	**EHD T514 M U 2 10**	M	277	0.13	36.00	1.00	2,700	75	2.78	0.78
				240	0.15	36.00	1.00	2,700	75	2.78	0.78
				120	0.31	36.00	1.00	2,700	75	2.78	0.78
14 W (549 mm)	1	**EHD T514 M E 1 10**	M	240	0,08	19,2	1,00	1 350	70	5,21	0,73
				220	0,09	19,8	1,00	1 350	68	5,05	0,71
	2	**EHD T514 M E 2 10**	M	240	0,15	36,0	1,00	2 700	75	2,78	0,78
				220	0,16	35,2	1,00	2 700	77	2,84	0,80
21 W (33.4 in)	1	**EHD T521 M U 1 10**	M	277	0.10	26.60	1.00	2,100	79	3.76	0.79
				240	0.11	26.30	1.00	2,100	80	3.81	0.80
				120	0.22	26.30	1.00	2,100	80	3.81	0.80
	2	**EHD T521 M U 2 10**	M	277	0.18	48.50	1.00	4,200	87	2.06	0.87
				240	0.20	48.60	1.00	4,200	86	2.06	0.86
				120	0.41	48.70	1.00	4,200	86	2.05	0.86
21 W (848 mm)	1	**EHD T521 M E 1 10**	M	240	0,11	26,4	1,00	2 100	80	3,79	0,80
				220	0,12	26,4	1,00	2 100	80	3,79	0,80
	2	**EHD T521 M E 2 10**	M	240	0,20	48,0	1,00	4 200	88	2,08	0,88
				220	0,21	46,2	1,00	4 200	91	2,16	0,91
28 W (45.2 in)	1	**EHD T528 M U 1 10**	M	277	0.12	33.00	1.00	2,900	88	3.03	0.85
				240	0.13	31.20	1.00	2,900	93	3.21	0.90
				120	0.28	33.60	1.00	2,900	86	2.98	0.83
	2	**EHD T528 M U 2 10**	M	277	0.22	59.80	1.00	5,800	97	1.67	0.94
				240	0.26	62.40	1.00	5,800	93	1.60	0.90
				120	0.52	62.40	1.00	5,800	93	1.60	0.90
28W (1 148 mm)	1	**EHD T528 M E1 10**	M	240	0,13	31,2	1,00	2 900	93	3,21	0,90
				220	0,15	33,0	1,00	2 900	88	3,03	0,85
	2	**EHD T528 M E 2 10**	M	240	0,26	62,4	1,00	5 800	93	1,60	0,90
				220	0,29	63,8	1,00	5 800	91	1,57	0,88

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

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

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
14 W (21.6 in)	1	**H3D T514 C U 1 10**	C	277	0.07	19.40	1.00	1,350	70	5.16	0.72
				240	0.08	19.20	1.00	1,350	70	5.21	0.73
				120	0.16	19.20	1.00	1,350	70	5.21	0.73
	2	**H3D T514 C U 2 10**	C	277	0.13	36.00	1.00	2,700	75	2.78	0.78
				240	0.15	36.00	1.00	2,700	75	2.78	0.78
				120	0.30	36.00	1.00	2,700	75	2.78	0.78
21 W (33.4 in)	1	**H3D T521 C U 1 10**	C	277	0.10	26.60	1.00	2,100	79	3.76	0.79
				240	0.11	26.30	1.00	2,100	80	3.81	0.80
				120	0.22	26.30	1.00	2,100	80	3.81	0.80
	2	**H3D T521 C U 2 10**	C	277	0.18	48.50	1.00	4,200	87	2.06	0.87
				240	0.20	48.60	1.00	4,200	86	2.06	0.86
				120	0.41	48.70	1.00	4,200	86	2.05	0.86
28 W (45.2 in)	1	**H3D T528 C U 1 10**	C	277	0.12	33.00	1.00	2,900	88	3.63	0.85
				240	0.13	31.20	1.00	2,900	93	3.21	0.90
				120	0.28	33.60	1.00	2,900	86	2.98	0.83
	2	**H3D T528 C U 2 10**	C	277	0.22	59.80	1.00	5,800	97	1.67	0.94
				240	0.26	62.40	1.00	5,800	93	1.60	0.90
				120	0.52	62.40	1.00	5,800	93	1.60	0.90

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

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

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
14W (21.6 in)	1	**EC5 T514 J UNV 1**	J	277	0.07	19.00	1.00	1,350	71	5.26	0.74
				240	0.08	19.20	1.00	1,350	70	5.21	0.74
				120	0.16	19.20	1.00	1,350	70	5.21	0.74
	2	**EC5 T514 J UNV 2**	J	277	0.12	32.80	1.00	2,700	82	3.05	0.85
				240	0.14	33.30	1.00	2,700	81	3.00	0.85
				120	0.28	33.30	1.00	2,700	81	3.00	0.85
21W (33.4 in)	1	**EC5 T521 J UNV 1**	J	277	0.09	24.90	1.00	2,100	84	4.01	0.84
				240	0.12	28.80	1.00	2,100	73	3.47	0.73
				120	0.22	26.40	1.00	2,100	80	3.79	0.80
	2	**EC5 T521 J UNV 2**	J	277	0.17	46.00	1.00	4,200	91	2.17	0.91
				240	0.20	47.20	1.00	4,200	89	2.12	0.89
				120	0.39	47.20	1.00	4,200	89	2.12	0.89
28W (45.2 in)	1	**EC5 T528 J UNV 1**	J	277	0.12	32.60	1.00	2,900	89	3.07	0.86
				240	0.14	32.90	1.00	2,900	88	3.04	0.85
				120	0.27	32.90	1.00	2,900	88	3.04	0.85
	2	**EC5 T528 J UNV 2**	J	277	0.23	64.50	1.00	5,800	90	1.55	0.87
				240	0.27	65.00	1.00	5,800	89	1.54	0.86
				120	0.54	65.20	1.00	5,800	89	1.53	0.86
35W (57.1 in)	1	**EC5 T535 J UNV 1**	J	277	0.15	42.00	1.00	3,650	87	2.38	0.83
				240	0.18	42.30	1.00	3,650	87	2.38	0.83
				120	0.35	42.20	1.00	3,650	87	2.38	0.83

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

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 Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
24W (21.6 in)	1	**EHD T524 M U 1 10**	M	277	0.10	27.70	1.00	2,000	72	3.61	0.87
				240	0.12	28.80	1.00	2,000	69	3.47	0.83
				120	0.25	30.00	1.00	2,000	67	3.33	0.80
	2	**EHD T524 M U 2 10**	M	277	0.20	55.40	1.00	4,000	72	1.81	0.87
				240	0.23	55.20	1.00	4,000	72	1.81	0.87
				120	0.46	54.60	1.00	4,000	73	1.83	0.88
24W (549 mm)	1	**EHD T524 M E 1 10**	M	240	0,12	28,8	1,00	2 000	69	3,47	0,83
				220	0,13	28,6	1,00	2 000	70	3,50	0,84
	2	**EHD T524 M E 2 10**	M	240	0,22	52,8	1,00	4 000	76	1,89	0,91
				220	0,25	55,0	1,00	4 000	73	1,82	0,87
39W (33.4 in)	1	**EHD T539 M U 1 10**	M	277	0.17	46.00	1.00	3,500	76	2.17	0.85
				240	0.19	44.90	1.00	3,500	78	2.23	0.87
				120	0.37	44.40	1.00	3,500	79	2.25	0.88
	2	**EHD T539 M U 2 10**	M	277	0.29	81.40	1.00	7,000	86	1.23	0.96
				240	0.35	84.00	1.00	7,000	83	1.19	0.93
				120	0.70	84.00	1.00	7,000	83	1.19	0.93
39W (848 mm)	1	**EHD T539 M E 1 10**	M	240	0,18	43,2	1,00	3 500	81	2,31	0,90
				220	0,19	41,8	1,00	3 500	84	2,39	0,93
	2	**EHD T539 M E 2 10**	M	240	0,34	81,6	1,00	7 000	86	1.23	0,96
				220	0,39	85,8	1,00	7 000	82	1,17	0,91
54W (45.2 in)	1	**EHD T554 M U 1 10**	M	277	0.23	63.70	1.00	5,000	78	1.57	0.85
				240	0.26	62.40	1.00	5,000	80	1.60	0.87
				120	0.54	64.80	1.00	5,000	77	1.54	0.83
	2	**EHD T554 M U 2 10**	M	277	0.42	116.30	1.00	10,000	86	0.86	0.93
				240	0.48	115.20	1.00	10,000	87	0.87	0.94
				120	0.95	114.00	1.00	10,000	88	0.88	0.95
54W (1148 mm)	1	**EHD T554 M E 1 10**	M	240	0,26	62,4	1,00	5 000	80	1,60	0,87
				220	0,29	63,8	1,00	5 000	78	1,57	0,85
	2	**EHD T554 M E 2 10**	M	240	0,48	115,2	1,00	10 000	87	0,87	0,94
				220	0,51	112,2	1,00	10 000	89	0,89	0,96

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

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

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
24W (21.6 in)	1	H3D T524 C U 1 10	C	277	0.10	27.70	1.00	2,000	72	3.61	0.87
				240	0.12	28.80	1.00	2,000	69	3.47	0.83
				120	0.25	30.00	1.00	2,000	67	3.33	0.80
	2	H3D T524 C U 2 10	C	277	0.20	55.40	1.00	4,000	72	1.81	0.87
				240	0.23	55.20	1.00	4,000	72	1.81	0.87
				120	0.46	54.60	1.00	4,000	73	1.83	0.88
39W (33.4 in)	1	H3D T539 C U 1 10	C	277	0.17	46.00	1.00	3,500	76	2.17	0.85
				240	0.19	44.90	1.00	3,500	78	2.23	0.87
				120	0.37	44.40	1.00	3,500	79	2.25	0.88
	2	H3D T539 C U 2 10	C	277	0.29	81.40	1.00	7,000	86	1.23	0.96
				240	0.35	84.00	1.00	7,000	83	1.19	0.93
				120	0.70	84.00	1.00	7,000	83	1.19	0.93
54W (45.2 in)	1	H3D T554 C U 1 10	C	277	0.23	63.70	1.00	5,000	78	1.57	0.85
				240	0.26	62.40	1.00	5,000	80	1.60	0.87
				120	0.54	64.80	1.00	5,000	77	1.54	0.83
	2	H3D T554 C U 2 10	C	277	0.42	116.30	1.00	10,000	86	0.86	0.93
				240	0.48	115.20	1.00	10,000	87	0.87	0.94
				120	0.95	114.00	1.00	10,000	88	0.88	0.95

Hi-lume® 3D (5% dimming) universal voltage digital dimming ballasts

- Dimming to 5%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Energy saving

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
80W (57.1 in)	1	H3D T580 C U 1 10	C	277	0.32	1.00	88.60	7000	79	1.13	0.90
				240	0.37	1.00	88.80	7000	79	1.13	0.90
				120	0.73	1.00	87.60	7000	80	1.14	0.91

Refer to the online ballast selection tool for additional information, www.lutron.com/BallastTool

*For case type information see pgs. 548-551.

**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) 120V and 277V dimming ballasts

- Dimming to 1%
- Compatible with Lutron 3-wire fluorescent controls
- Energy saving

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
24W (21.6 in)	1	FDB-T524-277-1	C	277	0.15	36.00	1.00	2,000	56	2.78	0.67
		FDB-T524-120-1		120	0.31	31.20	1.00	2,000	64	3.21	0.77
	2	FDB-T524-277-2	C	277	0.24	55.40	1.00	4,000	72	1.81	0.87
		FDB-T524-120-2		120	0.62	54.00	1.00	4,000	74	1.85	0.89
39W (33.4 in)	1	FDB-T539-277-1	C	277	0.19	47.10	1.00	3,500	74	2.12	0.83
		FDB-T539-120-1		120	0.38	45.60	1.00	3,500	77	2.19	0.86
	2	FDB-T539-277-2	C	277	0.32	85.90	1.00	7,000	82	1.16	0.91
		FDB-T539-120-2		120	0.76	91.20	1.00	7,000	77	1.10	0.86
54W (45.2 in)	1	FDB-T554-277-1	C	277	0.25	69.3	1.00	5,000	72	1.44	0.78
		FDB-T554-120-1		120	0.58	69.6	1.00	5,000	72	1.44	0.78
	2	FDB-T554-277-2	C	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.

Refer to the online ballast selection tool for additional information, www.lutron.com/BallastTool

*For case type information see pgs. 548-551.

†Actual number may vary with lamp model. Please consult the lamp manufacturer for lamp-specific data.

T5 HO Linear (continued)

EcoSystem® (10% dimming) universal voltage digital dimming ballasts

- Dimming to 10%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Integral sensor connections

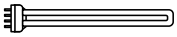
Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
24W (21.6 in)	1	EC5 T524 J UNV 1	J	277	0.11	30.00	1.00	2,000	67	3.33	0.80
				240	0.13	28.80	1.00	2,000	69	3.47	0.83
				120	0.24	28.80	1.00	2,000	69	3.47	0.83
	2	EC5 T524 J UNV 2	J	277	0.20	54.80	1.00	4,000	73	1.82	0.89
				240	0.23	54.00	1.00	4,000	74	1.85	0.89
				120	0.45	53.90	1.00	4,000	74	1.86	0.89
39W (33.4 in)	1	EC5 T539 J UNV 1	J	277	0.16	43.30	1.00	3,500	81	2.31	0.90
				240	0.18	44.00	1.00	3,500	80	2.27	0.89
				120	0.37	44.00	1.00	3,500	80	2.27	0.89
	2	EC5 T539 J UNV 2	J	277	0.30	83.00	1.00	7,000	84	1.20	0.94
				240	0.35	84.00	1.00	7,000	83	1.19	0.93
				120	0.70	84.30	1.00	7,000	83	1.19	0.93
54W (45.2 in)	1	EC5 T554 J UNV 1	J	277	0.21	56.50	1.00	5,000	88	1.77	0.96
				240	0.24	58.00	1.00	5,000	86	1.73	0.93
				120	0.48	57.90	1.00	5,000	86	1.73	0.93
	2	EC5 T554 J UNV 2	J	277	0.40	110.10	1.00	10,000	91	0.91	0.98
				240	0.52	119.00	1.00	10,000	84	0.84	0.91
				120	0.99	119.30	1.00	10,000	84	0.84	0.91

Refer to the online ballast selection tool for additional information, www.lutron.com/BallastTool

*For case type information see pgs. 548-551.

**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

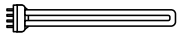
Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
36W (15.5 in)	1	**H3D T536 G U 1 10**	G	277	0.14	38.40	1.00	2,850	74	2.60	1.04
				240	0.17	40.40	1.00	2,850	71	2.48	0.99
				120	0.33	39.20	1.00	2,850	73	2.55	1.02
	2	**H3D T536 G U 2 10**	G	277	0.26	71.30	1.00	5,700	80	1.40	1.12
				240	0.31	73.70	1.00	5,700	77	1.36	1.09
				120	0.61	72.50	1.00	5,700	79	1.38	1.10
40W (22.5 in)	1	**H3D T540 G U 1 10**	G	277	0.16	43.90	1.00	3,100	71	2.28	0.91
				240	0.18	42.80	1.00	3,100	72	2.34	0.93
				120	0.36	42.80	1.00	3,100	72	2.34	0.93
	2	**H3D T540 G U 2 10**	G	277	0.27	74.00	1.00	6,200	84	1.35	1.08
				240	0.32	76.00	1.00	6,200	82	1.32	1.05
				120	0.64	76.00	1.00	6,200	82	1.32	1.05
	3	**H3D T540 G U 3 10**	G	277	0.40	109.70	1.00	9,300	85	0.91	1.09
				240	0.47	111.70	1.00	9,300	83	0.90	1.07
				120	0.95	112.90	1.00	9,300	82	0.89	1.06
50W (22.5 in)	1	**H3D T550 G U 1 10**	G	277	0.20	54.80	1.00	4,000	73	1.82	0.91
				240	0.23	54.60	1.00	4,000	73	1.83	0.92
				120	0.45	53.50	1.00	4,000	75	1.87	0.93
	2	**H3D T550 G U 2 10**	G	277	0.36	98.70	1.00	8,000	81	1.01	1.01
				240	0.42	99.80	1.00	8,000	80	1.00	1.00
				120	0.84	99.80	1.00	8,000	80	1.00	1.00

Refer to the online ballast selection tool for additional information, www.lutron.com/BallastTool

*For case type information see pgs. 548-551.

**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

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
36/39W (15.5 in)	1	EC5 T536 J UNV 1	J	277	0.14	38.80	1.00	2,850	73	2.57	0.93
				240	0.17	39.60	1.00	2,850	72	2.53	0.91
				120	0.33	39.60	1.00	2,850	72	2.53	0.91
	2	EC5 T536 J UNV 2	J	277	0.26	72.00	1.00	5,700	79	1.39	1.00
				240	0.31	73.20	1.00	5,700	78	1.37	0.98
				120	0.61	73.20	1.00	5,700	78	1.37	0.98
40W (22.5 in)	1	EC5 T540 J UNV 1	J	277	0.16	44.30	1.00	3,100	70	2.26	0.90
				240	0.18	43.20	1.00	3,100	72	2.31	0.93
				120	0.36	43.20	1.00	3,100	72	2.31	0.93
	2	EC5 T540 J UNV 2	J	277	0.27	74.80	1.00	6,200	83	1.34	1.07
				240	0.32	76.80	1.00	6,200	81	1.30	1.04
				120	0.64	76.80	1.00	6,200	81	1.30	1.04
	3	EC5 T540 G UNV 3L††	G	277	0.40	111.30	1.00	9,300	84	0.90	1.08
				240	0.47	112.40	1.00	9,300	83	0.89	1.07
				120	0.95	113.20	1.00	9,300	82	0.88	1.06
50W (22.5 in)	1	EC5 T550 J UNV 1	J	277	0.20	55.40	1.00	4,000	72	1.81	0.90
				240	0.23	54.00	1.00	4,000	72	1.85	0.93
				120	0.45	54.00	1.00	4,000	74	1.85	0.93
	2	EC5 T550 J UNV 2	J	277	0.36	99.70	1.00	8,000	80	1.00	1.00
				240	0.42	100.80	1.00	8,000	79	0.99	0.99
				120	0.84	100.80	1.00	8,000	79	0.99	0.99
55W (20.7 in)	1	EC5 T555 J UNV 1	J	277	0.20	55.40	0.90	4,320	78	1.62	0.89
				240	0.23	55.20	0.90	4,320	78	1.63	0.90
				120	0.46	55.20	0.90	4,320	78	1.63	0.90
	2	EC5 T555 J UNV 2	J	277	0.40	110.80	0.90	8,640	78	0.81	0.90
				240	0.46	110.40	0.90	8,640	78	0.82	0.90
				120	0.92	110.40	0.90	8,640	78	0.82	0.90

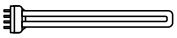
Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

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

Lamp Watts (Length)	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
25W (22.5 in)	1	**EC5 T540 RW J UNV 1**	J	277	0.12	34.30	1.00	2,600	76	2.91	0.73
				240	0.14	34.50	1.00	2,600	75	2.89	0.72
				120	0.28	34.10	1.00	2,600	76	2.93	0.73
	2	**EC5 T540 RW J UNV 2**	J	277	0.21	59.30	1.00	5,200	88	1.68	0.84
				240	0.25	61.00	1.00	5,200	85	1.64	0.82
				120	0.49	59.30	1.00	5,200	88	1.68	0.84

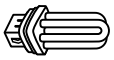
Please consult lamp manufacturer's specification to determine the dimmability of the reduced wattage lamp.

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

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) 120V and 277V dimming ballasts

- Dimming to 1%
- Compatible with Lutron 3-wire fluorescent controls
- Energy saving

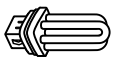
Lamp Watts	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
26W (Triple Tube)	1	HL3-T426-277-1-S‡	A	277	0.12	33.20	0.95	1,710	51	2.86	0.74
		HL3-T426-120-1-S‡		120	0.26	31.20	0.95	1,710	55	3.04	0.79
32W (Triple Tube)	1	HL3-T432-277-1-S‡	A	277	0.13	36.00	0.95	2,280	63	2.64	0.84
		HL3-T432-120-1-S‡		120	0.35	37.20	0.95	2,280	61	2.55	0.82

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

†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.

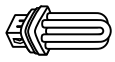
T4 Compact (continued) 

EcoSystem® (5% dimming) universal voltage digital dimming ballasts

- Dimming to 5%
- Compatible with Lutron 3-wire fluorescent controls and EcoSystem digital controls
- Energy saving

Lamp Watts	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)**	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
18W (Triple/ Quad Tube)	1	**EC3D T418 K U 1 S‡**	K	277	0.08	20.80	0.95	1,140	55	4.57	0.82
				240	0.09	21.40	0.95	1,140	53	4.44	0.80
				120	0.18	21.30	0.95	1,140	54	4.46	0.80
	2	**EC3D T418 K U 2 S‡**	K	277	0.15	39.90	0.95	2,280	57	2.38	0.86
				240	0.17	39.40	0.95	2,280	58	2.41	0.87
				120	0.34	41.10	0.95	2,280	56	2.31	0.83
26W (Triple/ Quad Tube)	1	**EC3D T4MW K U 1 S‡**	K	277	0.10	27.00	0.95	1,710	63	3.52	0.92
				240	0.11	26.90	0.95	1,710	64	3.54	0.92
				120	0.22	26.40	0.95	1,710	65	3.60	0.94
	2	**EC3D T4MW K U 2 S‡**	K	277	0.19	51.40	0.95	3,420	67	1.85	0.96
				240	0.21	50.60	0.95	3,420	68	1.88	0.98
				120	0.43	51.60	0.95	3,420	66	1.84	0.96
32W (Triple Tube)	1	**EC3D T4MW K U 1 S‡**	K	277	0.12	33.20	0.95	2,280	69	2.86	0.91
				240	0.14	33.60	0.95	2,280	68	2.83	0.90
				120	0.29	34.80	0.95	2,280	66	2.73	0.87
	2	**EC3D T4MW K U 2 S‡**	K	277	0.24	65.50	0.95	4,560	70	1.45	0.93
				240	0.26	63.00	0.95	4,560	72	1.51	0.96
				120	0.55	66.00	0.95	4,560	69	1.44	0.92
42W (Triple Tube)	1	**EC3D T442 K U 1 S‡**	K	277	0.15	42.60	0.95	3,040	71	2.23	0.94
				240	0.18	42.70	0.95	3,040	71	2.23	0.93
				120	0.36	43.20	0.95	3,040	70	2.20	0.92
	2	**EC3D T442 K U 2 S‡**	K	277	0.31	85.40	0.95	6,080	71	1.11	0.93
				240	0.35	85.10	0.95	6,080	72	1.12	0.94
				120	0.73	87.60	0.95	6,080	69	1.08	0.91

*For case type information see pgs. 548-551.
**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) 120V dimming ballasts

- Dimming to 5%
- Designed for retrofit applications
- Compatible with Lutron Tu-Wire fluorescent controls
- Energy saving

Lamp Watts	Lamps per Ballast	Model Number	Case Type*	Input Voltage (VAC)	Input Current (A)	Input Power (W)	Ballast Factor (BF)	System Lumens (lm)†	System Efficacy (lm/W)†	Ballast Efficacy Factor (BEF)	Relative System Efficacy (RSE)
18W (Triple/ Quad Tube)	2	2W-T418-120-2-S‡	B	120	0.41	49.20	0.95	2,280	46	1.93	0.70
26W (Triple/ Quad Tube)	1	2W-T426-120-1-S‡	A	120	0.27	32.40	0.95	1,710	53	2.93	0.76
	2	2W-T426-120-2-S‡	B	120	0.53	63.60	0.95	3,420	54	1.49	0.78
32W (Triple Tube)	1	2W-T432-120-1-S‡	A	120	0.33	39.60	0.95	2,280	58	2.40	0.77
	2	2W-T432-120-2-S‡	B	120	0.58	69.60	0.95	4,560	66	1.36	0.87

Refer to the online ballast selection tool for additional information, **www.lutron.com/BallastTool**

*For case type information see pgs. 548-551.

†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.

The following ballast model numbers have certifications specific to certain countries. For details on these ballast models, visit **www.lutron.com**

Europe (CE)

EHD T514 M E 1 10
EHD T514 M E 2 10
EHD T521 M E 1 10
EHD T521 M E 2 10
EHD T524 M E 1 10
EHD T524 M E 2 10
EHD T528 M E 1 10
EHD T528 M E 2 10
EHD T539 M E 1 10
EHD T539 M E 2 10
EHD T554 M E 1 10
EHD T554 M E 2 10

NOTE: For specification information, please reference page 50

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
EC5 T514 J UNV 1 N
EC5 T514 J UNV 2 N
EC5 T521 J UNV 1 N
EC5 T521 J UNV 2 N
EC5 T524 J UNV 1 N
EC5 T524 J UNV 2 N
EC5 T528 J UNV 1 N
EC5 T528 J UNV 2 N
EC5 T535 J UNV 1 N
EC5 T536 J UNV 1 N
EC5 T536 J UNV 2 N
EC5 T539 J UNV 1 N
EC5 T539 J UNV 2 N
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EC5 T550 J UNV 2 N
EC5 T554 J UNV 1 N
EC5 T554 J UNV 2 N
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EC5 T555 J UNV 2 N
EC5 T817 J UNV 1 N
EC5 T817 J UNV 2 N
EC5 T825 J UNV 1 N
EC5 T825 J UNV 2 N
EC5 T832 J UNV 1 N
EC5 T832 J UNV 2 N
EC3D T418 K U 1 N
EC3D T418 K U 1 S N
EC3D T418 K U 2 N
EC3D T418 K U 2 S N
EC3D T4MW K U 1 N
EC3D T4MW K U 1 S N
EC3D T4MW K U 2 N
EC3D T4MW K U 2 S N
EC3D T442 K U 1 N
EC3D T442 K U 1 S N
EC3D T442 K U 2 N
EC3D T442 K U 2 S N
EHD T514 M U 1 10 N
EHD T514 M U 2 10 N
EHD T521 M U 1 10 N
EHD T521 M U 2 10 N
EHD T524 M U 1 10 N
EHD T524 M U 2 10 N
EHD T528 M U 1 10 N
EHD T528 M U 2 10 N
EHD T539 M U 1 10 N
EHD T539 M U 2 10 N
EHD T554 M U 1 10 N
EHD T554 M U 2 10 N
EHD T817 M U 1 10 N
EHD T817 M U 2 10 N
EHD T825 M U 1 10 N
EHD T825 M U 2 10 N
EHD T832 M U 1 10 N
EHD T832 M U 2 10 N
EHD T832 M U 1 17 N
EHD T832 M U 2 17 N

Japan (PSE)

H3 T432 K 100 1 J
H3 T832 G UNV 1 J
H3 T832 G UNV 2 J

Argentina (S)

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

LED

Example: L3DA4U1UKS-HC070

For assistance, contact our LED Center of Excellence at 1.877.346.5338 or LEDS@lutron.com, or use the online model number tool at **www.lutron.com/LEDBuildAModel**

How to build a Hi-lume® A-Series LED model number:

L__ __A4U1U__ __ – __ __ __ __ __

1 Control type:*

3D= EcoSystem® or 3-wire control

TE= 2-Wire forward phase control (neutral required)

Case size:

K=Compact

M=Stick

Case style:

S=Studded (K-case only)

N=Non-studded

2

Current level (for constant current):*

020=0.20A; 021=0.21A…210=2.10A

Voltage level (for constant voltage):*

100=10.00V; 105=10.50V…600=60.00V

Driver output:*

C=Constant current driver with pulse width modulation (PWM) dimming

A=Constant current driver with constant current reduction (CCR) dimming

V=Constant voltage driver with pulse width modulation (PWM) dimming

LED load output range (contact fixture manufacturer for specifications)

Class 2 constant voltage

A=10.00V-12.00V 3.30 A maximum

B=12.50V-20.00V

C=20.50V-24.00V

D=24.50V-38.00V

Isolated Non-class 2 constant voltage

X=38.50V-60.00V

Class 2 constant current

E=0.20A-0.50A 30V-54V

F=0.51A-1.00A 30V-54V

G=0.20A-0.70A 8V-20V

H=0.20A-0.70A 15V-38V

I=0.71A-1.05A 8V-20V

J=0.71A-1.05A 15V-38V

K=1.06A-1.50A 8V-20V

L=1.06A-1.50A 15V-38V

M=1.51A-2.10A 8V-20V (30W maximum)

Isolated Non-class 2 constant current

Y=0.20A-0.50A 30V-60V

Z=0.51A-1.00A 30V-60V

*For details on control types, see pg. 593.

LED

How to build an EcoSystem® LED model number (CE models):

L DE A2E1C PA – _ _ _ _ _

1 Control type:*

DE=Digital Only EcoSystem

2

Current level (for constant current):*

020=0.20A; 021=0.21A … 105=1.05A

Voltage level (for constant voltage):*

100=10.00V; 105=10.50V … 400=40.00V

Driver output:*

C=Constant current driver with pulse width modulation (PWM) dimming

A=Constant current driver with constant current reduction (CCR) dimming

V=Constant voltage driver with pulse width modulation (PWM) dimming

LED load output range (see following pages for explanation and examples):

Constant voltage	Constant current
A=8.00V-12.00V	G=0.20A-0.70A 8V-20V
B=12.50V-20.00V	H=0.20A-0.70A 15V-40V
C=20.50V-24.00V	I=0.71A-1.05A 8V-20V
D=24.50V-40.00V	J=0.71A-1.05A 15V-40V
1.05A and 25W maximum	40V and 25W maximum

*For details on control types, see pg. 593.

Details for building a Lutron® LED driver model number

1 Choosing a control type input

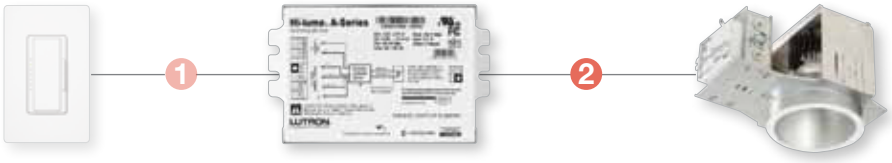
The following control technologies refer to the signal and wiring between the control on the wall and the LED driver. The compatibility of a dimmer with a particular LED fixture begins with making sure they both use the same control method. These control technologies are used in stand-alone applications and control systems as well as in wired and wireless lighting controls.

Selection of a control is typically driven by the requirements of the project.

Control type	Features	Ideal applications
2-Wire forward phase control	• 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)

Details for building a Lutron® LED driver model number



2 Choosing an LED driver output

Lutron LED drivers offer models for both constant current and constant voltage applications. These two types of drivers are not interchangeable, and the design of the LED array, decided upon by the fixture manufacturer, determines which driver is appropriate.

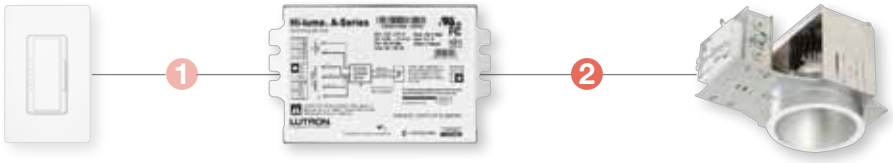
The driver's output is determined by the design of the fixture's LED array, and must therefore be selected by the fixture manufacturer.

	Typical applications	Details
Constant current	• 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 12 V and 24 V 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)

Details for building a Lutron LED driver model number



2 Choosing an LED dimming method

For constant current LED drivers, there are two mechanisms for dimming: pulse width modulation (PWM) and constant current reduction (CCR). Constant voltage LED drivers always use PWM. In a PWM driver, the current is switched at a high frequency between zero and the rated output current. The ratio of on time to off time determines the perceived light level. In a CCR supply, the current flows continuously at a set amount to achieve a given light level.

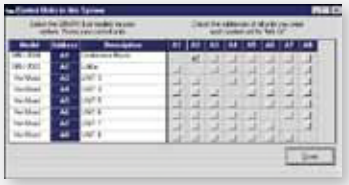
Certain applications may favor a particular dimming method for best results. In most cases, either approach is suitable.

Driver output	Suitable applications
Pulse width modulation (PWM)	• 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

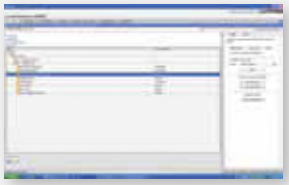
For more information, please use the following resources:
- LED Driver Selection Tool (**www.lutron.com/LEDBuildAModel**)
- Lutron LED Control Center of Excellence (1.877.DIM.LED8 or email LEDs@lutron.com)
- Controlling LEDs whitepaper P/N 367-2035 REV B

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.



GRAFIK Eye Liason™ software
pg. 598



Q-admin™ software for lights
pg. 599

Q-admin software for shades
pg. 600

Custom floor plan software
pg. 601

Green Glance® software
pg. 602

Personna PC software
pg. 606

HomeWorks® QS software
pg. 610

Q-Reporting software
pg. 603

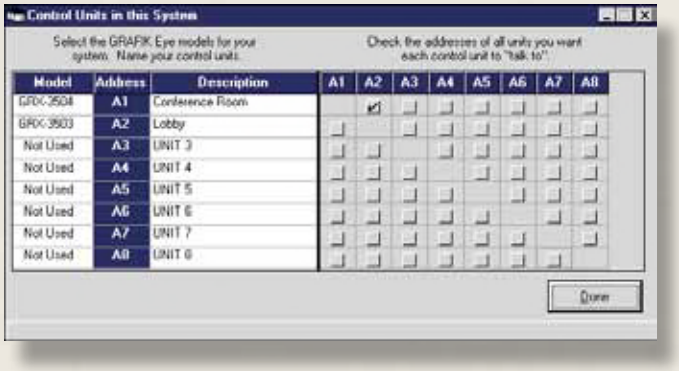
Q-control+ software
pg. 607

BACnet software
pg. 604

PC Desktop/Laptop
pg. 608

DALI Emergency Ballast Management software
pg. 605

Q-Manager™ server
pg. 609



Shown above: Screen shot of GRAFIK Eye Liaison software

Features and benefits

- Windows-based utility that allows the programming of a GRAFIK Eye® 4500 series main unit
- Programming functionality includes:
  - Setting scenes
  - Identifying load types
  - Addressing control units
  - Assigning control units and zones
  - Scheduling time-of-day and astronomical time clock events
  - Defining sequencing
- In addition, allows the extraction of system information and backup of the programming data for archival purposes
- Requires Microsoft Windows 95 or later operating system, or Microsoft Windows NT* version 4.0 or later to operate

Required hardware

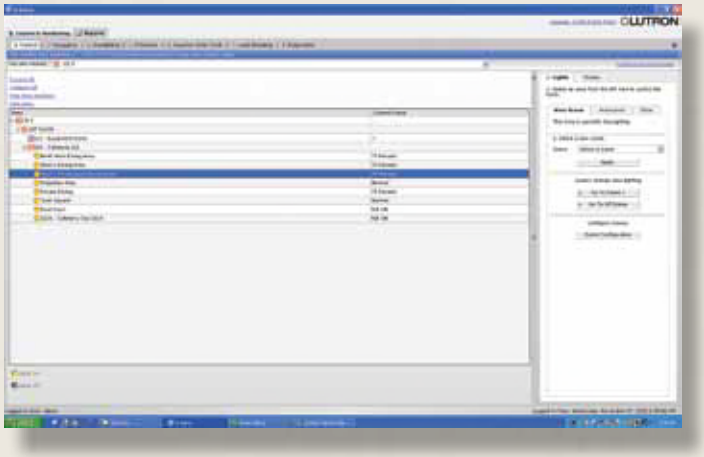
- IBM compatible PC (Pentium 266 MHz, 32 MB RAM, 15 MB free hard drive space, VGA graphics)
- GRAFIK Eye 4500 series main unit(s)
- Time clock/programming interface (P/N GRX-CI-PRG)

This component may be used in the following system(s):

- GRAFIK Eye 4000 pg. 213

Download software

* Does not support Microsoft Windows Vista or Microsoft Windows 7



Shown above: Screen shot of Q-Admin software for lights (QSW-L-PP-A)

Features and benefits

- Allows facility staff to manage the electric light and daylight in the space to maximize energy efficiency, comfort and productivity:
- Control and monitoring
- System navigation and status reporting performed by using a tabular view
- Control and monitor the lighting system as follows:
  - Area lights can be monitored for status, turned on/off or sent to a specific level or predefined scene
  - Individual zones may be controlled
  - Scenes can be modified in real time
- IntelliDemand allows the application of load shed reduction to selected areas
- Scheduling automates lighting functions by creating time of day and astronomic time clock events
- Diagnostics checks the status of all equipment in the light control system and provides a status of OK, Missing, or Unknown
- One licensed required per Quantum® processor

Required hardware

- Q-Manager™ server
- Quantum light management hub (Q2 or Q3)

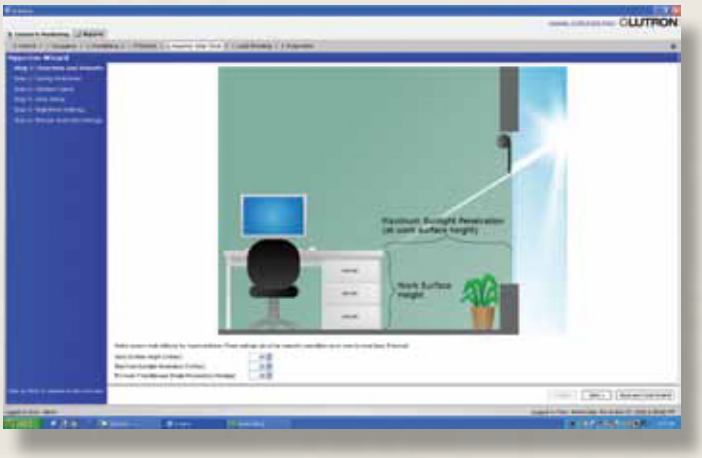
Model numbers

Software	
Q-Admin for lights	QSW-L-PP-A

Compatible with the Quantum system.

Download specification submittal

Q-admin™ software for shades



Shown above: Screen shot of Q-Admin software for shades (QSW-L-PP-A)

Features and benefits

- Allows facility staff to manage the motorized window treatments in the space to maximize energy efficiency, comfort and productivity:
- Control and Monitoring
  - System navigation and status reporting performed by using a tabular view
  - Area shade groups can be opened/closed, sent to a preset or sent to a specific position
  - Monitor groups for current preset or position status
- Hyperion® solar adaptive algorithm
  - Calculates the sun's position in the sky relative to the building and creates a unique shade adjustment schedule for each facade
  - Automatically positions the shade to limit direct sunlight penetration, which can cause glare and heat gain
- Scheduling automates shade functions (for shades not operating as part of Hyperion) by creating time of day and astronomic time clock events
- Diagnostics checks the status of all equipment in the light control system and provides a status of OK, Missing, or Unknown
- One licensed required per Quantum processor

Required hardware

- Q-Manager server
- Quantum light management hub (Q2 or Q3)

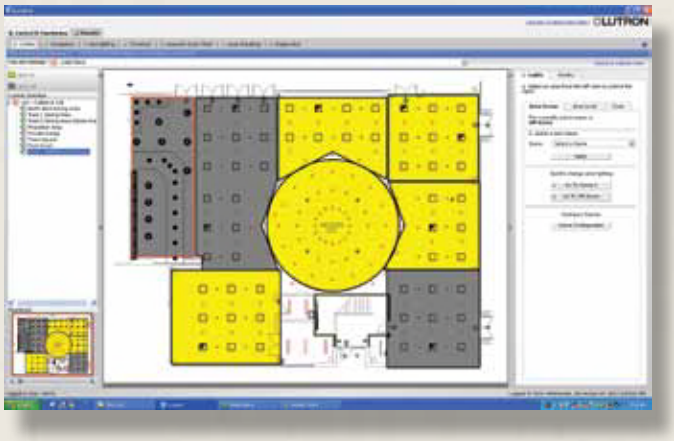
Model numbers

Software	
Q-Admin for shades	QSW-S-PP-A

Compatible with the Quantum system.

Download specification submittal

Custom floorplan software



Shown above: Screen shot of custom floorplan software (CUST-FPS-A)

Features and benefits

- Simple, intuitive graphical user interface that provides control of lighting and shades via the Q-Admin™ software
- Enhances the basic tabular view navigation and reporting offered in Q-Admin
- Utilizes reflected ceiling plans of the projects to provide a visual representation for real-time monitoring and control that is easily understood by any user
- Provides color-coded feedback of the current light and window treatment status in each area, in addition to supplying the current occupied and daylighting conditions
- Offers pan and zoom functionality
- Q-Admin software for lights and/or shades required

Model numbers

Software	
Custom floorplan	CUST-FPS-A

Compatible with the Quantum® system.

Download specification submittal

Shown above: Screen shot of Green Glance software (QSW-GGL-PP-A)

Features and capacities

- Allows real-time and historical lighting energy data to be displayed on an LCD display or computer monitor
- Displays lighting energy savings compared to a full-on state, and equivalent savings expressed in terms of coal not burned and CO_2 not emitted
- Data is organized in graphical format intended for public viewing
- Maximum of six concurrent Green Glance displays per system
- One license required per Quantum processor
- Q-Admin software for lights and Q-Reporting software required to operate

Required hardware

- Q-Manager server
- Quantum light management hub (Q2 or Q3)
- User-supplied display (minimum resolution of 1024 x 768) or client PC*

Model numbers

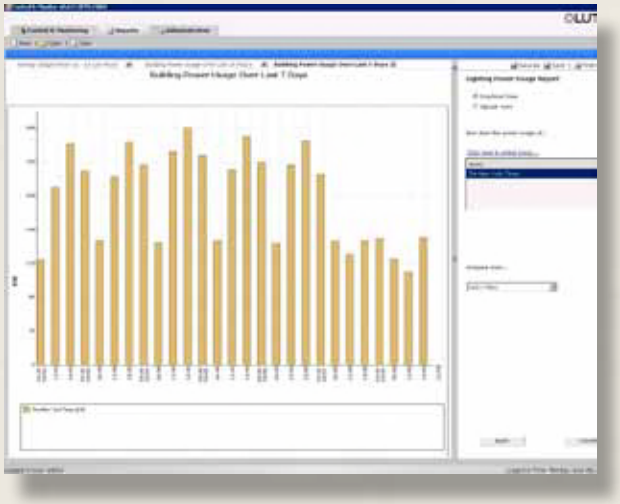
Software	
Green Glance	QSW-GGL-PP-A

Compatible with the Quantum® system.

* Must meet the minimum requirements of the Lutron PC desktop or laptop (see pg. 608)

Download specification submittal

Q-Reporting software



Shown above: Screen shot of Q-Reporting software (QSW-RPT-PP-A)

Features and benefits

Creates the following detailed reports to simplify operations:

- Lighting power and energy usage
  - Gathers historical information about the buildings usage
  - Provides a comparison of cumulative energy used over period of time
  - Shows power usage over a period of time
- Lamp maintenance report supplies a list of all failed fluorescent lamps connected to Ecosystem or DALI ballasts
- System activity reports are detailed reports of all events that occurred in the system, such as occupant activity, ballast replacement and time clock activity
- IntelliDemand monitors and displays real-time building power usage for the current day, assisting staff in the load shed reduction decision
- One license required per Quantum processor
- Q-Admin software for lights required to operate

Required hardware

- Q-Manager server
- Quantum light management hub (Q2 or Q3)

Model numbers

Software	
Q-Reporting	QSW-RPT-PP-A

Compatible with the Quantum system.

Download specification submittal

Shown above: Screen shot of BACnet software (QSW-BAC-PP-A)

Features and benefits

- Enables a third-party building management systems to control, monitor and manage lights and shades within the Quantum system
- Share information, such as occupancy, power usage, and lighting level status with other control systems
- One license required per Quantum® processor

Required hardware

- Quantum light management hub (Q2 or Q3)

Optional software

- Q-Admin software for lighting—required for each processor in the system if controlling lights
- Q-Admin software for shades—required for each processor in system if controlling motorized window treatments
- Q-Reporting—required for each processor if power data via BACnet is required

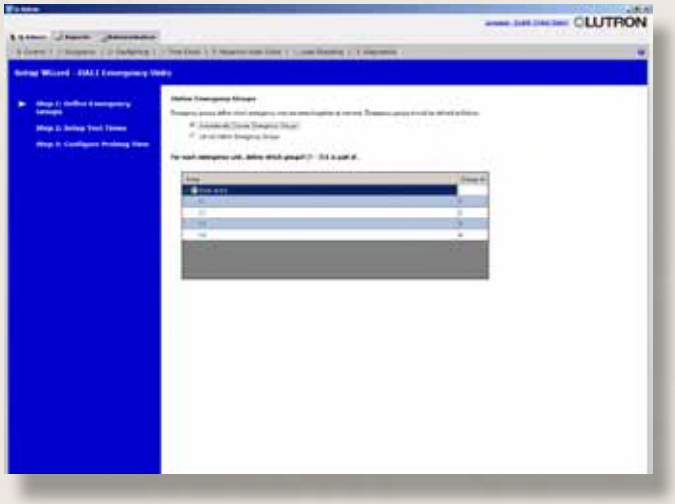
Model numbers

Software	
BACnet	QSW-BAC-PP-A

Compatible with the Quantum® system.

Download specification submittal

DALI emergency ballast management software



Shown above: Screen shot of DALI Emergency Ballast Management software (QSW-DEM-PP-A)

Features and benefits

- Provides the ability to monitor, manage and test DALI emergency devices that are connected to the Quantum® system
- Allows the user to schedule and perform functional and duration tests for all DALI emergency ballasts in system
  - Functional—verifies proper communication with system, checks for lamp failures and confirms that the batter circuit is functional
  - Duration—verifies that the batteries attached to the devices operate within their limits
- Permits user to group the ballasts into one of seven emergency groups and to define the day of the week that each group will be tested
- Allows the user to configure the amount of time the devices will stay at the emergency light level after an event has ended and normal power has been restored
- One license required per Quantum® processor
- Q-Admin™ software for lights required to operate

Required hardware

- Q-Manager™ server
- Quantum light management hub (Q2 or Q3)
- DALI Emergency ballasts must be connected to Quantum system via a Lutron® Energi Savr Node™ with DALI main unit (see pg. 605)

Model numbers

Software	
DALI Emergency Ballast Management	QSW-DEM-PP-A

Compatible with the Quantum system.

Download specification submittal

Personna® PC software

Shown above: Screen shot of Personna PC software (QSW-PPC-PS-A)

Features and benefits

- Allows the occupants of the building personal control of their lighting and window treatments from any device that can run a web browser, further enhancing comfort and productivity
- Supported web browsers include:
  - Microsoft Internet Explorer (Version 7 or higher)
  - Mozilla Firefox (Version 3 or higher)
  - Apple Safari (Version 4 or higher)
  - Google Chrome (Version 8 or higher)
- Grants control of the lighting* (from individual fixture to entire area) and window treatments (individual shade to group of shades) by individual users
- User can save their favorite light level and shade position so that it's easily recalled by clicking the Preset button
- One license required per seat; maximum of 10,000 users
- Requires connection to corporate network and Q-Manager server and access to email server

Required hardware

- Q-Manager server
- Quantum light management hub (Q2 or Q3)
- Separate server (Microsoft Internet Information Services) to host Personna PC website for 500 users or more

Model numbers

Software	
Personna PC	QSW-PPC-PS-A

Compatible with the Quantum® system.

* Daylight harvesting, high-end tuning and IntelliDemand load shed will limit the maximum light levels and energy usage

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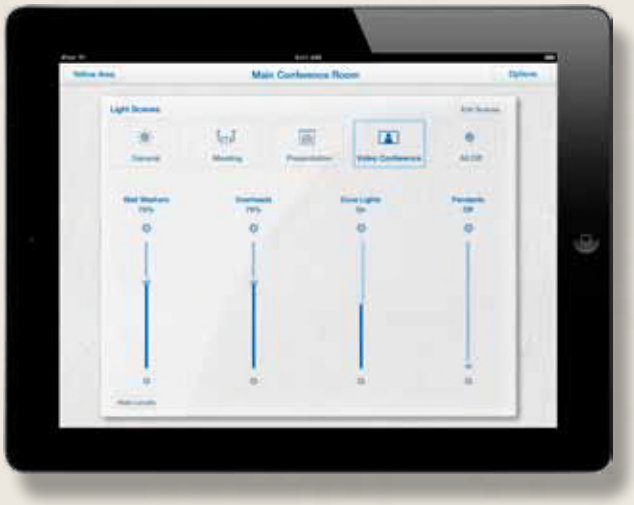
Q-Control+ software



Shown above: Screen shot of Q-Control+ iPad app

Features and benefits

- Allows control and programming of the Quantum® system via an Apple® iPad® mobile digital device on a local area network (LAN) or corporate intranet
- Provides mobile control and monitoring of area lighting and window treatments
- Offers editing functionality*:
  - Adjust area scene lighting levels and shade presets
  - Change area scene fade and delay times
  - Make zones unaffected in scenes
- Provides area access control to restrict access to specific areas
- Utilize as a hand-held device or a wall-mounted touchscreen
- Supports English, Spanish, French, German, Simplified Chinese and Brazilian Portuguese languages
- One license required per iPad mobile device
- Requires Quantum version 2.6 or later, Lutron® Q-Control+ app downloaded from the iTunes® Store and a standard wireless network to operate

Required hardware

- Q-Manager™ server or PC desktop/laptop
- Quantum light management hub (Q2 or Q3)
- iPad mobile digital device

Model numbers

Software	
Q-Control+	QSW-MC-PS-A

Compatible with the Quantum® system.

* When utilizing GRAFIK Eye QS as load controller within system, reconfiguration of scenes is done from the GRAFIK Eye QS main unit not the mobile app; app cannot control contact closure output zones

Download specification submittal

PC desktop

PC laptop

Features and capacities

- Desktop or laptop PC used to run the Quantum® light management software application Q-Admin™ or the Green Glance® energy savings display software (one PC needed per Green Glance terminal)
- Dedicated for Lutron® Quantum software only
- Intended for periodic use only; a server-based machine is required for 24/7 operation

Minimum hardware configuration required

- Single Intel CPU with minimum speed of 2.0 GHz
- 512 MB RAM
- 36 GB hard drive
- One 10/100/1000 Ethernet network interface for communication to Quantum® light management hub(s) or Q-Manager™ server
- 17 in. (43 cm) monitor/LCD screen of 1024 x 768 resolution
- 48X CD/DVD-ROM drive
- 3 USB 2.0 port (desktop) or 1 USB 2.0 port (laptop)

Software required

- Licensed installation of U.S. English Microsoft® Windows® 7 Professional

Model numbers*

PC	
Desktop	QS-A-CMP-D-0
Laptop	QS-A-CMP-L-0

Compatible with the Quantum system.

This component may be used in the following system(s):

- Quantum® pg. 612

Download specification submittal

* PC desktop or laptop may be supplied by customer (P/N QS-A-CMP-DBO-0 or QS-A-CMP-LBO-0, must meet all minimum requirements listed.

Server (QS-A-CMP-S-0)

Model numbers*

Standard Server	
Tower server with keyboard, mouse, monitor and UPS	QS-A-CMP-S-0
Rack Mount server with UPS	QS-A-CMP-S-K
Rack mount server with a rack mount console with a keyboard, mouse, slide-out monitor and UPS	QS-A-CMP-S-C

Compatible with the Quantum® system.

High Reliability Server	
Tower server with keyboard, mouse, monitor and UPS	QS-A-CMP-R-0
Rack Mount server with UPS	QS-A-CMP-R-K
Rack mount server with a rack mount console with a keyboard, mouse, slide-out monitor and UPS	QS-A-CMP-R-C

Compatible with the Quantum® system.

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Features and capacities

- Dedicated server used to collect and record data from the Quantum® system
- Server is dedicated for Lutron® Quantum software only
- All Lutron rack mount servers come with rails for a standard 4-post rack only
- Two versions available: standard or high-reliability

Minimum hardware configuration required

- Single Intel Xenon processor with minimum speed of 2.0 GHz or Dual Core Intel processor with minimum speed of 1.86 GHz
- 2 GB RAM minimum
- 80 GB hard drive (hot-swappable RAID 5 hard drive—3 hard drives—included with high reliability only)
- Two 10/100/1000 Ethernet ports*—one for communication to Quantum panels and one for communication to corporate intranet
- 17 in. (43 cm) monitor with 1024 x 768 resolution and graphics card capable of same resolution
- 48X CD/DVD-ROM driver
- 4 USB 2.0 ports
- Dual hot-swappable power supplies

Software required

- Licensed installation of U.S. English Microsoft Windows Server 2008 Pack 1

* Server may be supplied by customer (P/N QS-A-CMP-SBO-0), must meet all minimum requirements listed

** Only one Ethernet port required if all Quantum panels and client PCs are on same network

HomeWorks® QS software

Shown above: Screen shot of HomeWorks QS software

Features and capacities

- Design the system by defining controls, loads, and equipment, and assigning the devices to links; a customized device toolbox can be tailored to your design preferences
- Program the system by creating presets/scenes, assigning items, scheduling time clock events, and occupancy sensing settings
- Integrate third-party devices, such as HVAC and A/V systems, using Lutron integration protocol
- Provides commissioning support through communication diagnostics
- Creates customized report packages—bill of material, load schedule, wiring, and engraving

Required hardware

- PC desktop/laptop

Quantum® Select

Quantum Select packages are simple, cost-effective options for adding select capabilities of larger, centralized lighting and energy management systems to smaller, more specialized applications

Ideal for standalone or panel-based projects that desire only select Quantum functionality, Quantum Select packaged solutions include a light management hub and the appropriate software licenses.

Available functionality

- Time clock
- Building integration
- Solar-adaptive shade control
- Energy display and reporting
- Central control of lights
- Central control of shades

All Quantum Select packages come ready to add occupancy/vacancy sensing, daylight harvesting, high-end trim and personal control; additional components required.

Central time clock package

Designed for projects that require a simple, cost-effective and scalable system, the Central Control package provides the ability to adjust and monitor your lighting control system easily from a computer. Package includes light management hub (QP3) and Q-Admin for lights software.

Features and benefits

- Provide automatic control of a Lutron system with an astronomic time clock
- Manage and monitor electric light and daylight for maximum energy efficiency, comfort and productivity
- Meet automatic shutoff requirements (for all major codes and standards)

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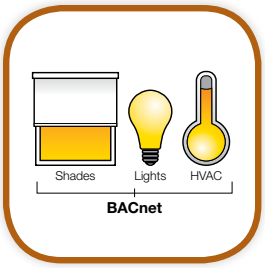
Model numbers

Quantum Select package

Central control	QSL-BAS-PKG

Compatible with the Quantum system.



Building systems integration package

Ideal for integrating a Lutron light control system with a third-party building management system, the Building System Integration package provides the necessary software licenses to manage your building from a single point of control. Package includes light management hub (QP3), Q-Admin for lights and BACnet software licenses.

Features and benefits

- Provide automatic control of a Lutron system with an astronomic time clock
- Easily integrate with other building systems for a single point of control
- Native BACnet eliminates the need for additional interfaces or gateways
- Manage and monitor electric light and daylight for maximum energy efficiency, comfort and productivity
- Share sensor information between systems to reduce material costs and energy bills

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Model numbers

Quantum Select package

Building system integration	QSL-BMS-PKG

Compatible with the Quantum system.

Hyperion package

Designed for buildings that have direct exposure to daylight, the Hyperion package is ideal for applications that will utilize automatic shading systems to control the amount of daylight entering a space based on the position of the sun. Package includes light management hub (QP3) and Q-Admin for shades software license.

Features and benefits

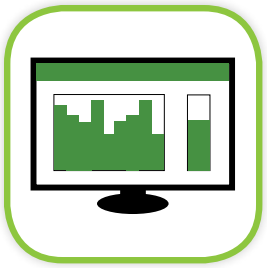
- Automatically adjust shades based on time of day and position of the sun (solar-adaptive)
- Provide centralized control and monitoring capability for shades
- Increase employee productivity and comfort by reducing glare
- Reduce HVAC costs by minimizing solar heat gain
- Save money by minimizing maintenance requirements

Download specification submittal

Model numbers

Quantum Select package	
Hyperion	QSL-HYP-PKG

Compatible with the Quantum system.



Green Glance package

Intended for organizations focused on monitoring and promoting energy use to facilitate effective energy management, the Green Glance package features display software that provides real-time and historical data on lighting energy savings. Package includes light management hub (QP3) and Q-Admin for shades, Q-Reporting and Green Glance software licenses.

Features and benefits

- Provide automatic control of a Lutron system with an astronomic time clock
- Use the GreenGlance display to help promote your energy saving efforts to visitors and employees
- Evaluate energy usage and identify opportunities for increased efficiency
- Adjust and refine light control strategies based on system data
- Manage and monitor electric light and daylight for maximum energy efficiency, comfort and productivity

Download specification submittal

Model numbers

Quantum Select package	
GreenGlance	QSL-GG-PKG

Compatible with the Quantum system.

Shading systems

The Sivoia® QS family of wired and wireless shading systems utilize an ultra-quiet, precision controlled Electronic Drive Unit with Intelligent Hembar Alignment (IHA). Sivoia QS wired and wireless drive units are available for a variety of shade styles.

Options include:

- Roller shades
- Tensioned shades/skylight shades
- Roman shades with CERUS® technology
- Drapery tracks
- Kirbé® vertical drapery systems
- Venetian blinds
- Insulating Honeycomb Shades

Controllable roller shades

Roller shades are designed for ultra-quiet, precision control of daylight.

- Available models: roller 20TM, roller 64TM, roller 100TM, roller 150TM, roller 225TM, roller 200CW, and roller 300TM
- 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 24 ft
- Inside, recessed, and outside surface mounting options
- Light blocking fascia eliminates gaps around fabric when closed
- Pre-assembled shipping available to make installation more convenient
- Available with all Lutron roller shade fabrics. Commercial options are also available

Kirbé® vertical drapery system*

An entirely new type of window treatment that smoothly pulls the drapery up and out of the way, eliminating stackback.

- Available model: roller 100™
- Exclusive to Lutron®—an industry first
- Custom sized cornices are available in multiple shapes and fabric options
- Offered in several sheer colors and styles
- Pair with a blackout roller shade for room-darkening capability

Drapery systems and finished draperies*

Provide privacy with elegant draperies of any fabric and color.

- Available models: D105, D145, and D175
- Available in pinch pleat and ripple fold styles
- Operates up to 175 lb (79.40 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 0.125 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 two complete up and two complete down movements per day assuming a 3 ft wide by 5 ft tall shade using light-filtering fabric. Battery life can vary between two to five years depending on shade size and fabric selection.

Product type	Fabric collection	Fabric options	Additional options	
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
Drapery track	Avant™ collection	Soft fabrics	Pinch pleats	Liner options
	COM (see below)		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
			Casual style	Liner options
	COM (see below)	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	No
		Room darkening		
		Sheer		

Customer's Own Material (COM) is an option when designing roller shades, Romans shades with CERUS technology, finished drapery panels and cornices. Please contact shades customer service for more information at 1.800.446.1503.

Choosing the right fabric is critical to a successful shading project. Select from sheer, dim-out, or blackout fabrics to find a solution that's right for your project.

The Classico™ Collection

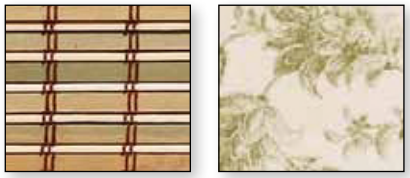
For larger roller shade applications, durable and long-lasting fabrics are a necessity. The Classico Collection by Lutron® includes wide roll widths, fire-rated materials, and an array of sustainable options.

The Gallery Collection

The Gallery Collection by Lutron offers a variety of colors, textures, and patterns to accent any residential décor. Add beauty to traditional roller shades with interesting patterns, intricate weaves, sophisticated suedes, or colorful linens.

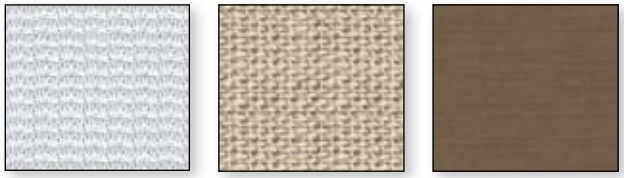
The Avant™ Collection

Featuring woven woods, sheers, and soft fabrics, the Avant Collection offers over 100 contemporary and traditional materials for Kirbé® vertical drapery systems, cornices, finished drapery systems, and Roman shades with CERUS® safety technology.



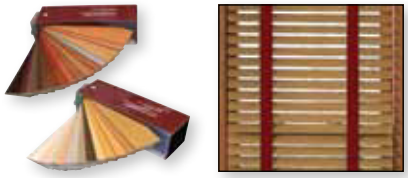
Insulating Honeycomb Fabric Collection

Insulating honeycomb shades come in a variety of colors and textures to complement any style. Available in single-cell and double-cell options and with light-filtering, room darkening, and sheer fabrics.



Lutron Venetian Blinds

Options include an extensive line of genuine hardwoods, available in designer paints or rich wood stains, painted or 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 of 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.

Power supplies

QS link power supply

QS link individual power supply

Features

- Works with Sivoia® QS wired and wireless shades
- 24 V DC supply that provides power to shades, drapery drive units, keypads, and accessories
- Simple wiring scheme uses 4-conductor, low-voltage link to provide power and communication for QS electronic drive units (EDUs), 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 with lid removed

Sivoia QS Wireless 120 V power supply panel (10 output)

Features

- 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 10-30 shades based on shade dimensions
- Up to two power panels on a 120 V x 20 A feed. Also available in other voltages

Power supplies

Sivoia QS wired power supply panel with cover removed

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

QS J-box Power Supply

Features

- 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, low-voltage link to provide power and communication for both QS electronic drive units (EDUs) and seeTouch QS keypads
- Flexible wiring topology for easy installation and integration
- Form factor allows the power supply to be hidden in utility spaces
- The J-box power supply is mounted on a four inch square junction box
- The power supply os protected electronically in the event of a miswire, and will automatically reset when wiring is correct

Power supplies

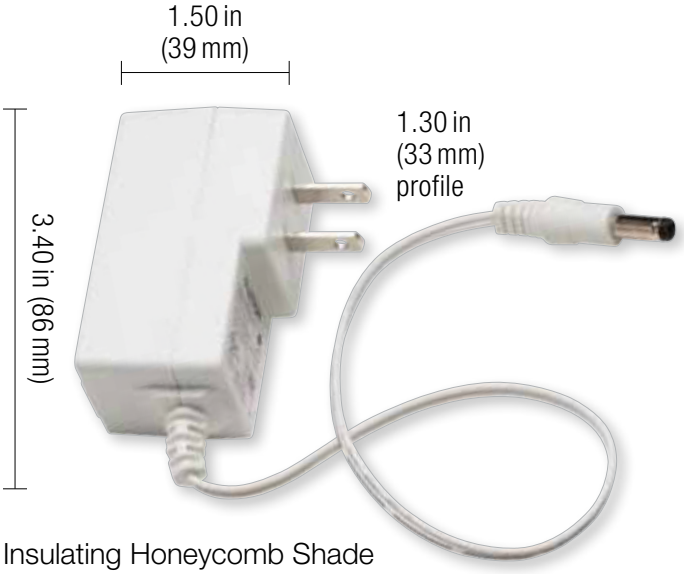
EcoSystem with shades Energi Savr Node™ with cover removed

Energi Savr Node™ with EcoSystem® for shades

Features

- 24 V⎓ 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 10-30 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

Power supplies



Insulating Honeycomb Shade plug-in supply

Insulating Honeycomb Shade plug-in supply

Features

- Electronic over current and over temperature protection
- Class 2 12 V DC power supply for Insulating Honeycomb Shades
- Simple installation—supply output plug can be connected directly to a Insulating Honeycomb Shade
- Unobtrusive—same form factor as a typical cell phone charger
- Energy efficient—International Efficiency Level V

Insulating Honeycomb Shade panel power supply

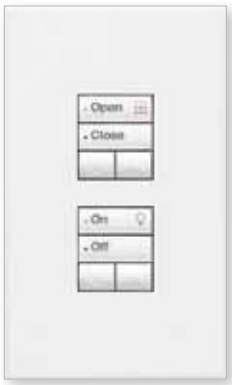
Insulating Honeycomb Shade power panel power supply

Features

- Universal input voltage 120-240 V~ 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

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.

Time clocks (Time of day control)

A time clock 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. 632

Designer Claro®/ Satin Colors® wallplates and accessories
pg. 640

International accessories
pg. 647

International square wallplate for Pico®
pg. 653

QS link power supplies
pg. 655

Enclosure for QS control interfaces
pg. 659

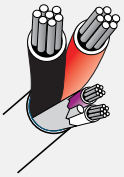
Ganging and derating
pg. 665

Electronic low-voltage transformer
pg. 656

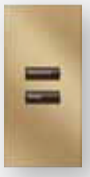
Mounting rack for QS control interfaces
pg. 660

Engraving
pg. 667

Lamp socket wiring tester
pg. 657

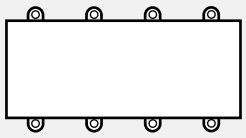


Cable/wiring
pg. 661

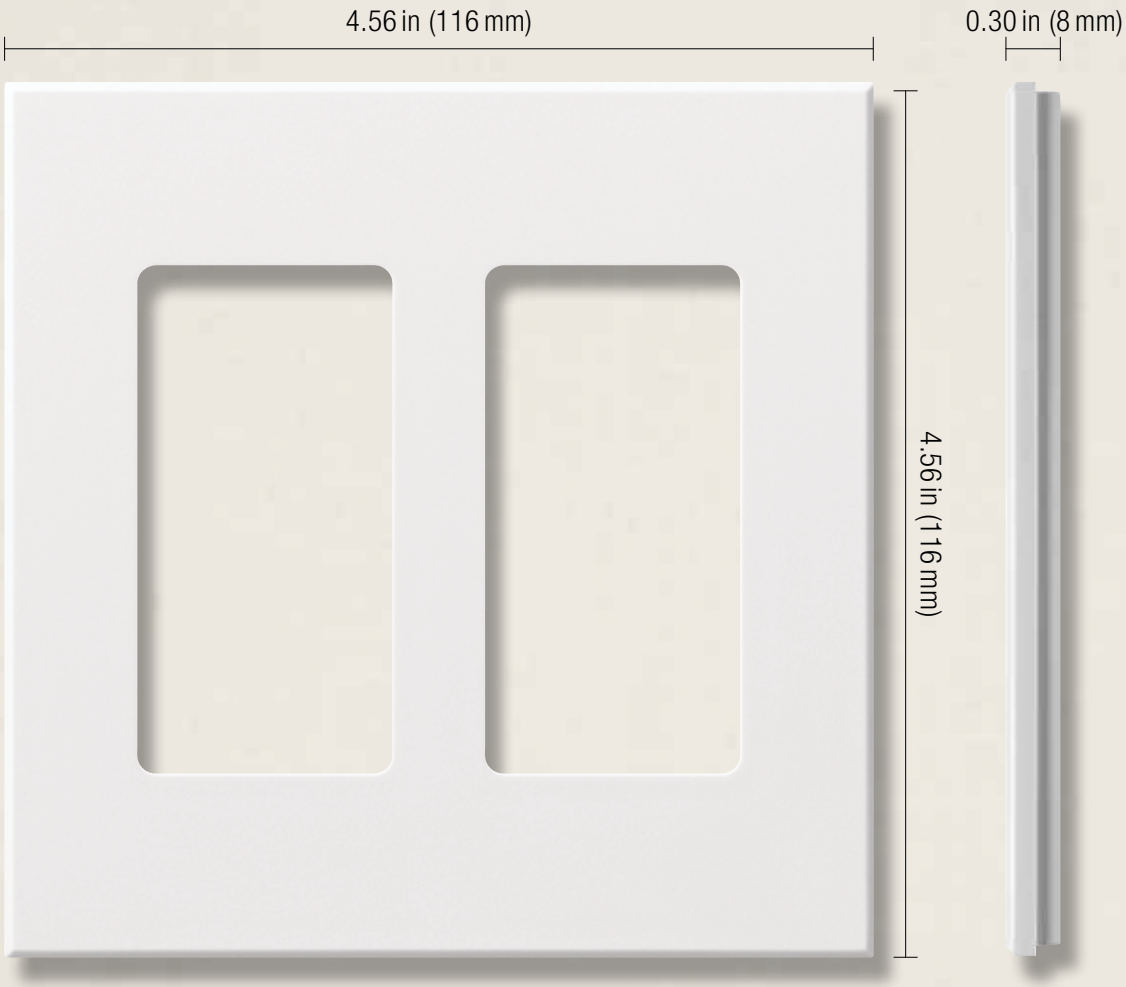


Custom control options
pg. 669

Lockable cover
pg. 658



Mounting
pg. 664



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
Download engraving sheet for faceplates

Color options

Use **BOLD** color code in model number (Example: VWP-R-**SI**)

Architectural matte finishes

WH
White

LA
Light Almond

AL
Almond

BE
Beige

IV
Ivory

TP
Taupe

GR
Gray

SI
Sienna

BR
Brown

BL
Black

Architectural metal finishes*

BN
Bright Nickel

BC
Bright Chrome

CLA
Clear Anodized Aluminum

SC
Satin Chrome

SN
Satin Nickel

QZ
Antique Bronze

AU
Gold Plated

BB
Bright Brass

BRA
Brass Anodized Aluminum

SB
Satin Brass

QB
Antique Brass

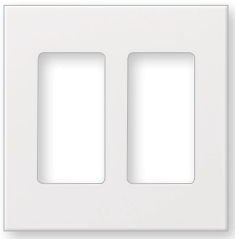
BLA
Black Anodized Aluminum

*Metal finish wallplates include black plastic trim/adapter, visible from side. Match with separate Black (BL) or Midnight (MN) controls.

Wallplate options

1-gang* VWP-R-**XX**[1]

W: 2.75 in (70 mm); H: 4.56 in (116 mm)
Profile: 0.30 in (8 mm)



2-gang* VWP-2R-**XX**[1]

W: 4.56 in (116 mm); H: 4.56 in (116 mm)
Profile: 0.30 in (8 mm)

Multiple devices with line and low-voltage can be mounted behind a common wallplate using a standard barrier backbox. See application note #213 (combining low-voltage and line-voltage wiring devices in a multi-gang box) at **www.lutron.com/applicationnotes**.

XX[1]: Architectural matte color codes, see pg. 633.
For metal finishes, contact Customer Service at 1.888.LUTRON1.

Multi-gang dimmer installations may require derating, see pg. 665.

*Metal finish wallplates include black plastic trim/adapter, visible from side. Match with separate Black (BL) controls.

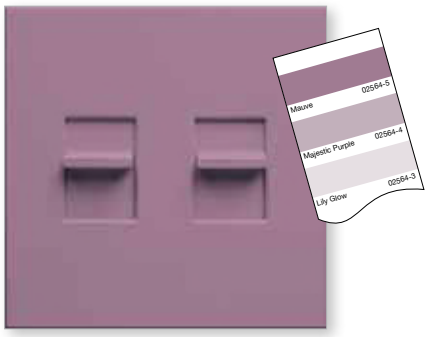
Custom Architectural wallplates

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☆ 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-**XX**[1]

Telephone jack

- 6-conductor jack, RJ11
- Includes 1-gang wallplate

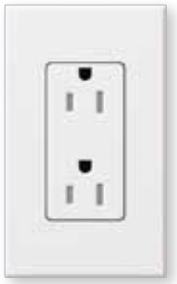
Single telephone jack*	NT-PJ-**XX**[1]

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**.

XX[1]: Architectural matte color codes, see pg. 633 (1-gang wallplate included)

*Metal finishes are only available as separate wallplates. Match with separate Black (BL) controls and accessories.

Receptacles



- Includes 1-gang wallplate
- Tamper resistant receptacles include tamper resistant shutter mechanism (shutters are white)

Tamper resistant receptacles*

15A	125V	NTR-15-TR-**XX**[1]
20A	125V	NTR-20-TR-**XX**[1]

Receptacles

15A	125V	NTR-15-**XX**[1]
20A	125V	NTR-20-**XX**[1]

Isolated ground receptacles

- Receptacle is orange for easy ID and circuit delineation
- Model number color code is for wallplate only
- Includes 1-gang wallplate

Isolated ground receptacles*

15A	125V	NTR-15-IG-OR-**XX**[1]
20A	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-**XX**[1]
20A	125V	GFCI	NTR-20-GFTR-**XX**[1]

XX[1]: Architectural matte color codes, see pg. 633 (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-**XX**[1]
20A	120/125V*	NTR-20-DDTR-**XX**[1]

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

15A	120/125V*	NTR-15-HDTR-**XX**[1]
20A	120/125V*	NTR-20-HDTR-**XX**[1]

Replacement plugs for dimming (use with receptacles for dimming use)

- This plug required for use with Lutron receptacles for dimming use—plug will work in standard receptacle
- Easily replaces the existing plugs on lamps

120/125V White	RP-FDU-10-WH
120/125V Brown	RP-FDU-10-BR

UL/CSA/NOM regulatory approvals

Important application notes:

- Receptacles and plugs for dimming use are UL listed for use with Lutron controls included in this catalog
- If there is only one electrical feed to the receptacle, then the duplex DDTR must be used
- If the hot and dimmed hot feeds to the split duplex HDTR are supplied from different circuits or split-wired, with separate switch-legs, a means to simultaneously disconnect these circuits must be provided at the panel board where they originate (NEC 210.7(C) 2002 Edition). A 2-pole circuit breaker or two single-pole circuit breakers with an approved handle tie can be used to accomplish this simultaneous disconnect. Feed-through dimming panels, which are those without breakers, are recommended when using the HDTR.
- For detailed information, see Application Notes #91 (Guide to Dimming Table Lamps) and #109 (Guide to Dimming Portable Lamps via Receptacles) at **www.lutron.com/applicationnotes**.

XX[1]: Architectural matte color codes, see pg. 633 (1-gang wallplate included)

*Metal finishes are only available as separate wallplates. Match with separate Black (BL) controls and accessories.

Field customizable 6-port frame

- Shipped with six blanks in matching colors
- Connectors sold separately
- Connectors snap in (no tools required)
- Includes 1-gang wallplate

6-port frame*	NT-6PF-**XX**[1]

Theatrical receptacles

- Provide standard pinout for DMX512 theatrical protocol
- Five-pin XLR-style jack
- Includes 1-gang wallplate

Male jack, stageboard	NT-DMXJ-IN-WH
Female jack, fixture equipment	NT-DMXJ-OUT-WH

Connectors for 6-port frame

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

F-style, 75-Ohm coaxial cable	CON-1C-**XX**[2]

BNC jack

BNC connector, 50-Ohm	CON-1B-WH

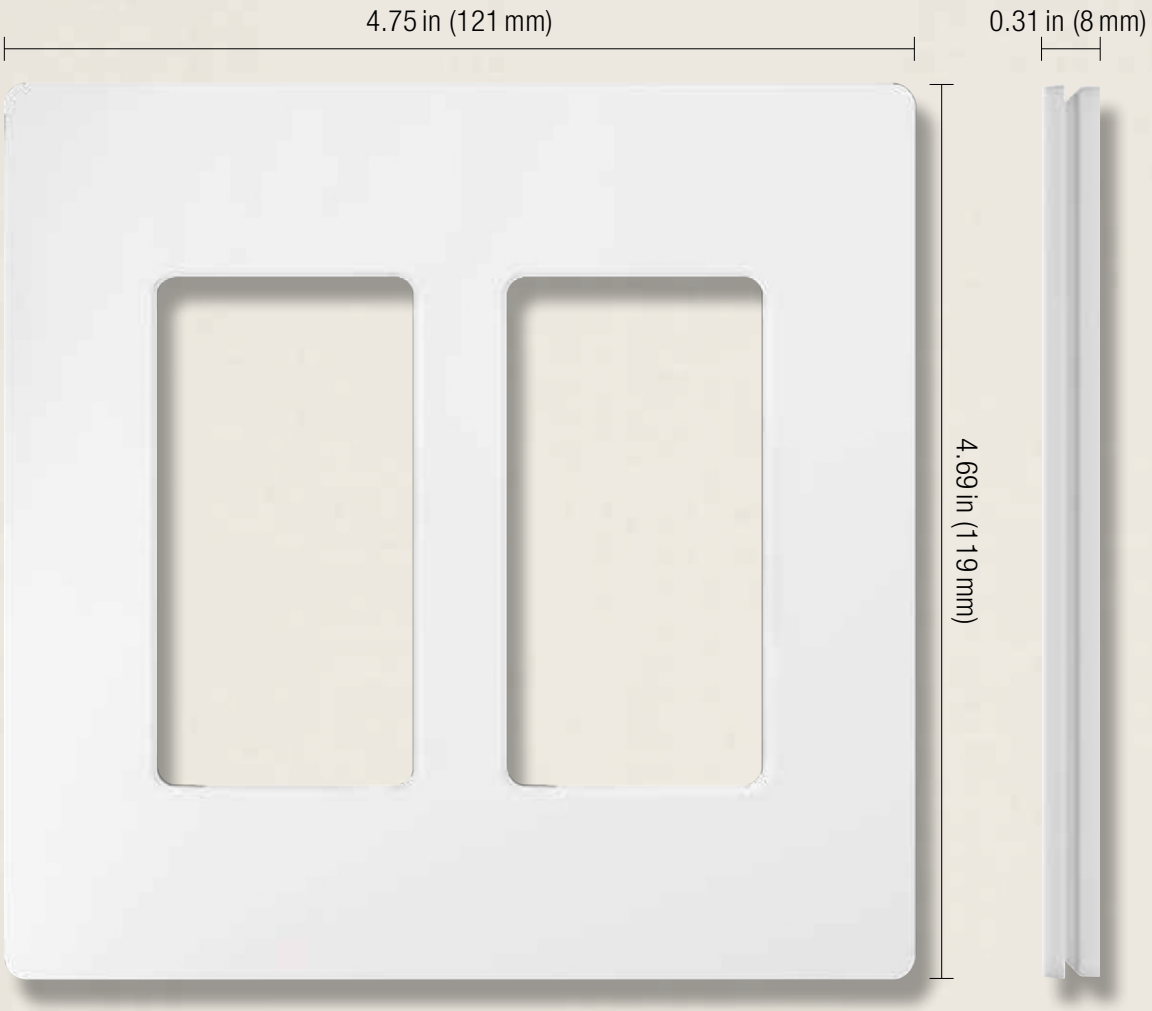
Connectors only for use with 6-port frame.

Multiple devices with line and low-voltage can be mounted behind a common wallplate using a standard barrier backbox, see Application Note #213 (Combining Low-Voltage and Line Voltage Wiring Devices in a Multi-Gang Box) at **www.lutron.com/applicationnotes**.

XX[1]: Architectural matte color codes, see pg. 633

XX[2]: Only available in White (WH) and Black (BL)

*Metal finishes are only available as separate wallplates. Match with separate Black (BL) controls and accessories.



Shown actual size: 2-gang Claro® wallplate in gloss White (CW-2-WH)

Product family features

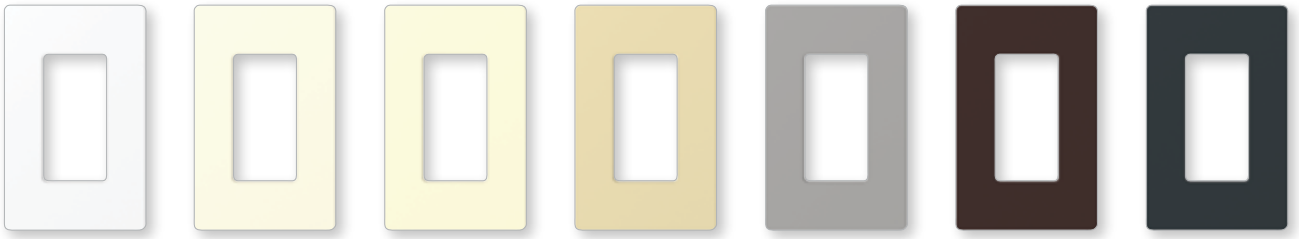
- Product comes with rounded edges to match designer-style controls
- Designer wallplates can be used with, HomeWorks® QS dimmer/switches/keypads, seeTemp wall controls, Pico® wireless controls, Pico wired controls, EcoSystem® wallstations, insert style seeTouch® and seeTouch QS keypads and accessories.
- 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
Download engraving sheet for faceplates

Color options

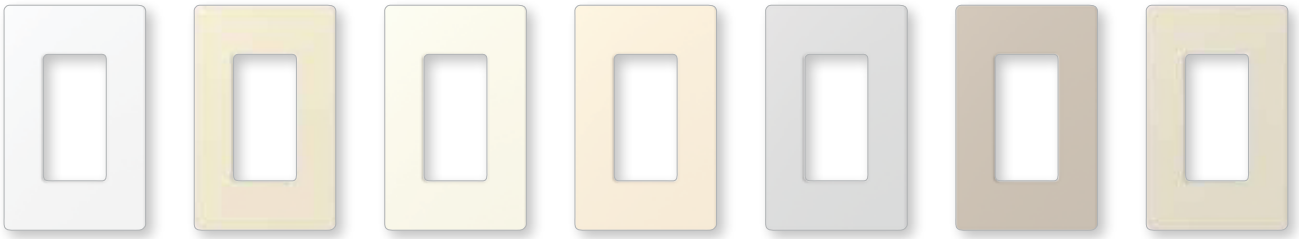
Use **BOLD** color code in model number (Example: SC-1-**PL**)

Gloss finishes

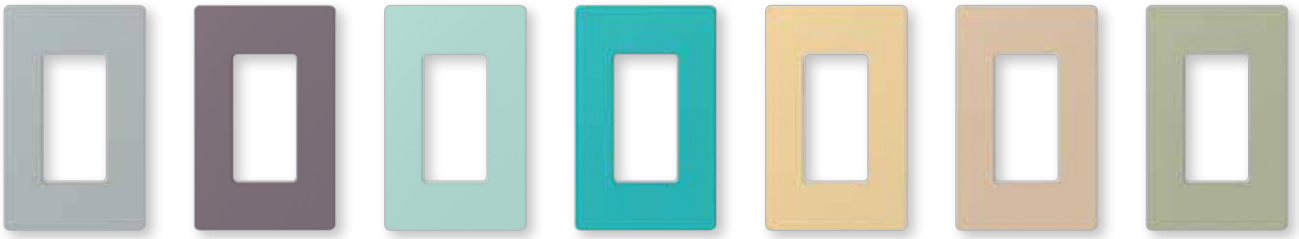


WH White
LA Light Almond
AL Almond
IV Ivory
GR Gray
BR Brown
BL Black

Satin finishes



SW Snow
LS Limestone
BI Biscuit
ES Eggshell
PD Palladium
TP Taupe
ST Stone



BG Bluestone
PL Plum
SG Sea Glass
TQ Turquoise
GS Goldstone
DS Desert Stone
GB Greenbriar

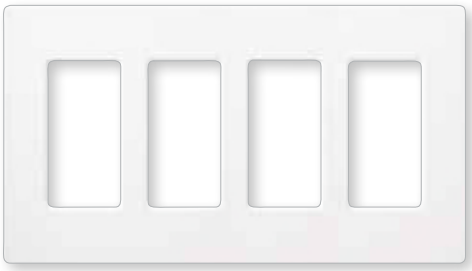
MS Mocha Stone
TC Terracotta
SI Sienna
HT Hot
MR Merlot
MN Midnight
SS Stainless Steel

*Stainless Steel finish only available as separate wallplate. Match with separate Black (BL) or Midnight (MN) controls and accessories.

Designer wallplates

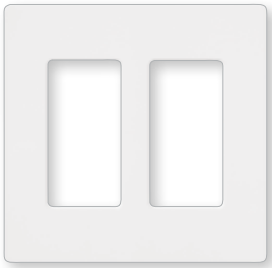
1-gang* CW-1-**XX**[1]
SC-1-**XX**[2]

W: 2.94 in (75 mm); H: 4.69 in (119 mm)
Profile: 0.31 in (8 mm)



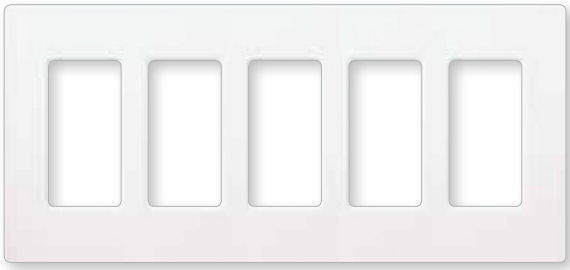
4-gang* CW-4-**XX**[1]
SC-4-**XX**[2]

W: 8.37 in (213 mm); H: 4.69 in (119 mm)
Profile: 0.31 in (8 mm)



2-gang* CW-2-**XX**[1]
SC-2-**XX**[2]

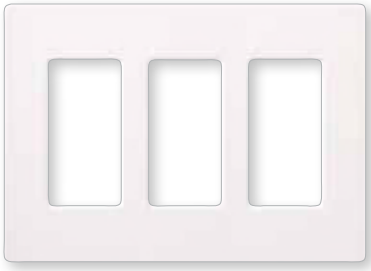
W: 4.75 in (121 mm); H: 4.69 in (119 mm)
Profile: 0.31 in (8 mm)



5-gang* CW-5-**XX**[1]
SC-5-**XX**[2]

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**.



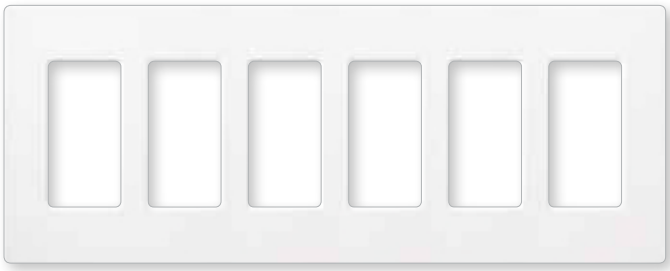
3-gang* CW-3-**XX**[1]
SC-3-**XX**[2]

W: 6.56 in (167 mm); H: 4.69 in (119 mm)
Profile: 0.31 in (8 mm)

XX[1]: Gloss and Stainless Steel color codes, see pg. 641.
XX[2]: Satin color codes, see pg. 641.

Multi-gang dimmer installations may require derating, see pg. 665.
*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



6-gang*	CW-6-**XX**[1] SC-6-**XX**[2]

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*

15 A	125 V	CARS-15-TR-**XX**[3]
15 A	125 V	SCRS-15-TR-**XX**[2]
20 A	125 V	SCRS-20-TR-**XX**[2]

Receptacles*

15 A	125 V	CAR-15-**XX**[3]
15 A	125 V	SCR-15-**XX**[2]
20 A	125 V	SCR-20-**XX**[2]

GFCI Receptacles

- Press test button to confirm LED indicator status
- Press reset button to reset GFCI after circuit interruption
- Wallplate sold separately
- Tamper resistant shutter mechanism (shutters are white)

Tamper resistant GFCI receptacles*

15 A	125 V	GFCI	CAR-15-GFTR-**XX**[3]
15 A	125 V		SCR-15-GFTR-**XX**[2]
20 A	125 V	GFCI	SCR-20-GFTR-**XX**[2]

XX[1]: Gloss and Stainless Steel color codes, see pg. 641.
XX[2]: Satin color codes, see pg. 641.
XX[3]: Gloss color codes, see pg. 641.

*Stainless Steel finish only available as separate wallplate. Match with separate Black (BL) or Midnight (MN) controls and accessories.

Receptacles for dual dimming use

- Duplex for dimming both connected loads
- Projecting nubs prevent standard plugs from being used
- Requires replacement plugs for dimming use, see next page
- Tamper resistant shutter mechanism
- Wallplate sold separately

Receptacles for half dimming use

- Top half for dimming
- Projecting nub prevents standard plug from being used
- Requires replacement plugs for dimming use, see next page
- Bottom half is a general use receptacle and will fit standard duplex plugs
- Tamper resistant shutter mechanism
- Wallplate sold separately

Dual dimming, tamper resistant

15 A	120/125 V*	CAR-15-DDTR-**XX**[1]
		SCR-15-DDTR-**XX**[2]
20 A	120/125 V*	CAR-20-DDTR-**XX**[1]
		SCR-20-DDTR-**XX**[2]

Half dimming, tamper resistant

15 A	120/125 V*	CAR-15-HDTR-**XX**[1]
		SCR-15-HDTR-**XX**[2]
20 A	120/125 V*	CAR-20-HDTR-**XX**[1]
		SCR-20-HDTR-**XX**[2]

XX[1]: Gloss color code and Stainless Steel, see pg. 641.
XX[2]: Satin color codes, see pg. 641.

*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 Brown	RP-FDU-10-BR

UL/CSA/NOM regulatory approvals.

Important notes

- Receptacles and plugs for dimming use are UL listed for use with Lutron controls included in this catalog.
- If there is only one electrical feed to the receptacle, then the duplex DDTR must be used.
- If the hot and dimmed hot feeds to the split duplex HDTR are supplied from different circuits or split-wired with separate switch-legs, a means to simultaneously disconnect these circuits must be provided at the panel board where they originate (NEC 210.7(C) 2002 Edition). A 2-pole circuit breaker or two single-pole circuit breakers with an approved handle tie can be used to accomplish this simultaneous disconnect. Feed-through dimming panels, which are those without breakers, are recommended when using the HDTR.
- For detailed information, see Application Notes #91 (Guide to Dimming Table Lamps) and #109 (Guide to Dimming Portable Lamps via Receptacles) at **www.lutron.com/applicationnotes**.

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-**XX**[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

MT-RJ feed through	CON-1F-MTRJ-WH
SC simplex	CON-1F-SC-WH
LC non-flush mount	CON-1F-LC-WH
ST style	CON-1F-ST-WH

Cable jack

F-style, 75-Ohm coaxial cable	CON-1C-**XX**[3]

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 15 A load
- General purpose switching of all sources and motor loads
- No derating if ganged
- Wallplate available separately, see pg. 642-643.

General purpose switches (120/277 V)

Single-pole	15 A*	CA-1PS-**XX**[1]
		SC-1PS-**XX**[2]
3-way	15 A*	CA-3PS-**XX**[1]
		SC-3PS-**XX**[2]
4-way	15 A*	CA-4PS-**XX**[1]
		SC-4PS-**XX**[2]

General purpose switch with locator light (120 V only)

Single-pole	15 A*	CA-1PSNL-**XX**[4]
		SC-1PSNL-**XX**[5]
3-way	15 A*	CA-3PSNL-**XX**[4]
		SC-3PSNL-**XX**[5]
4-way	15 A*	CA-4PSNL-**XX**[4]
		SC-4PSNL-**XX**[5]

XX[1]: Gloss color codes, see pg. 641.

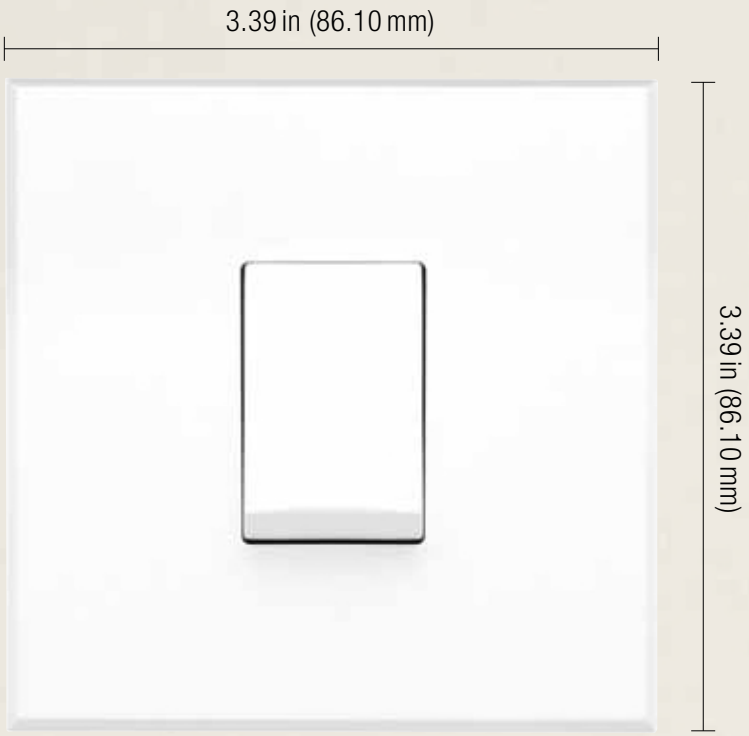
XX[2]: Satin color codes, see pg. 641.

XX[3]: Only available in White (WH) and Black (BL)

XX[4]: Only available in Almond (AL), Ivory (IV), Light Almond (LA), and White (WH)

XX[5]: 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-F**AW**-M)

Matte finishes

AW
Arctic White

Metallic finishes

MC
Mica

AR
Argentum

Metal finishes*

SN
Satin Nickel

BN
Bright Nickel

BB
Bright Brass

SB
Satin Brass

SC
Satin Chrome

BC
Bright Chrome

AU
Gold Plated

QB
Antique Brass

QZ
Antique Bronze

Model numbers

Single switch, 2-way

- 10 AX, 250V~

Unframed	RN-SS10-B-F**XX**[1]-M
Framed	RN-SS10-B-I**XX**[1]-M
(matching frame and insert)	
Framed	RN-SS10-B-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: .81 in (20.50 mm)

Dual Switch, 2-way

- 2 x 10 AX, 250V~

Unframed	RN-DS10-B-F**XX**[1]-M
Framed	RN-DS10-B-I**XX**[1]-M
(matching frame and insert)	
Framed	RN-DS10-B-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: .81 in (20.50 mm)

Model numbers

Shutter R/L switch

- 2 x 10 AX, 250V~

Unframed	CPW0856-F**XX**[1]-M
Framed	CPW0856-I**XX**[1]-M
(matching frame and insert)	
Framed	CPW0856-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: 0.81 in (20.50 mm)

Intermediate switch

- 10 AX, 250V~

Unframed	RN-IS10-B-F**XX**[1]-M
Framed	RN-IS10-B-I**XX**[1]-M
(matching frame and insert)	
Framed	RN-IS10-B-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: 0.93 in (23.60 mm)

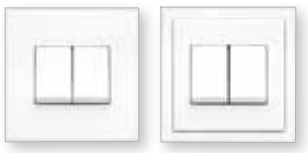
Single momentary switch

- 10 AX, 250V~
- For use with step/ impulse relay

Unframed	RN-SM10-B-F**XX**[1]-M
Framed	RN-SM10-B-I**XX**[1]-M
(matching frame and insert)	
Framed	RN-SM10-B-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: 0.87 in (22 mm)

Dual Intermediate switch

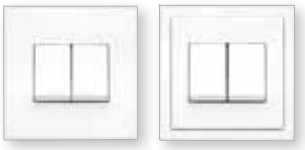


- 2 x 10 AX, 250V~

Unframed	CPW0732-F**XX**[1]-M
Framed	CPW0732-I**XX**[1]-M
(matching frame and insert)	
Framed	CPW0732-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: 0.93 in (23.60 mm)

Dual momentary switch



- 2 x 10 AX, 250V~
- For use with step/ impulse relay

Unframed	RN-DM10-B-F**XX**[1]-M
Framed	RN-DM10-B-I**XX**[1]-M
(matching frame and insert)	
Framed	RN-DM10-B-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: .87 in (22 mm)

XX[1]: Matte, metallic and metal color codes, see pg. 648
XX[2]: Metal color codes, see pg. 648

Schuko socket

- 16A, 250V

Framed RN-RS16-B-I**XX**[1]-M
(matching frame and insert)
Framed RN-RS16-B-B**XX**[2]-M
(black frame/metal insert)
W: 3.39in (86.10mm); H: 3.39in (86.10mm)
D: 1.21in (30.70mm)

French socket

- 16A, 250V
- With earthing pin (type E)

Framed RN-RE16-B-I**XX**[1]-M
(matching frame and insert)
Framed RN-RE16-B-B**XX**[2]-M
(black frame/metal insert)
W: 3.39in (86.10mm); H: 3.39in (86.10mm)
D: 1.21in (30.70mm)

French phone jack

Framed RN-FRPJ-B-I**XX**[1]-M
(matching frame and insert)
Framed RN-FRPJ-B-B**XX**[2]-M
(black frame/metal insert)
W: 3.39in (86.10mm); H: 3.39in (86.10mm)
D: 0.68in (17.20mm)

XX[1]: Matte, metallic and metal color codes, see pg. 648.
XX[2]: Metal color codes, see pg. 648.

RJ11 phone jack

- 6-conductor jack
- Cat 3

Unframed RN-RJ11-B-F**XX**[1]-M
Framed RN-RJ11-B-I**XX**[1]-M
(matching frame and insert)
Framed RN-RJ11-B-B**XX**[2]-M
(black frame/metal insert)
W: 3.39in (86.10mm); H: 3.39in (86.10mm)
D: 1.02in (26mm)

RJ45 network jack

- 8-conductor jack
- Cat 5

Unframed RN-RJ45-B-F**XX**[1]-M
Framed RN-RJ45-B-I**XX**[1]-M
(matching frame and insert)
Framed RN-RJ45-B-B**XX**[2]-M
(black frame/metal insert)
W: 3.39in (86.10mm); H: 3.39in (86.10mm)
D: 1.02in (26mm)

Sat jack

- F-style
- 75-Ohm
- Coaxial cable jack

Unframed RN-TF75-B-F**XX**[1]-M
Framed RN-TF75-B-I**XX**[1]-M
(matching frame and insert)
Framed RN-TF75-B-B**XX**[2]-M
(black frame/metal insert)
W: 3.39in (86.10mm); H: 3.39in (86.10mm)
D: 0.43in (11mm)

Triplexer-terminated

- 5-2300 MHz
- Loss ≤ 4 dB

Framed RN-TRI1-B-I**XX**[1]-M
(matching frame and insert)
Framed RN-TRI1-B-B**XX**[2]-M
(black frame/metal insert)
W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: 0.83 in (21 mm)

Triplexer-intermediate

- 5-2300 MHz
- Loss ≤ 7 dB

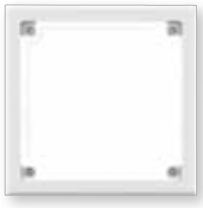
Framed RN-TRI2-B-I**XX**[1]-M
(matching frame and insert)
Framed RN-TRI2-B-B**XX**[2]-M
(black frame/metal insert)
W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: 0.83 in (21 mm)

Trim ring

- For use when retrofitting dimmers in shallow backboxes

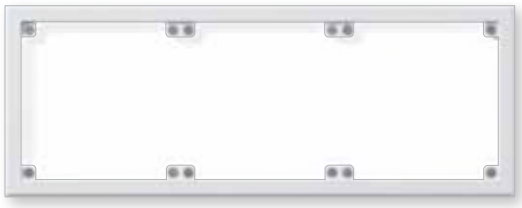
Trim ring RN-TRRG-B-**XX**[3]-M
W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: 0.52 in (13.10 mm)

Frames



1-gang RN-1GANG-B-I**XX**[1]-M
W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)

2-gang RN-2GANG-B-I**XX**[1]-M
W: 6.19 in (157.10 mm); H: 3.39 in (86.10 mm)



3-gang RN-3GANG-B-I**XX**[1]-M
W: 8.98 in (228.10 mm); H: 3.39 in (86.10 mm)

XX[1]: Matte, metallic and metal color codes, see pg. 648.
XX[2]: Metal color codes, see pg. 648.
XX[3]: Available in Arctic White (AW), Mica (MC), Argentum (AR), and Black (BL)

Blank faceplate

Unframed	RN-BLFP-B-F**XX**[1]-M
Framed	RN-BLFP-B-I**XX**[1]-M
(matching frame and insert)	
Framed	RN-BLFP-B-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)

1-port frame

- Use with any snap-in connectors

Unframed	RN-1PFR-B-F**XX**[1]-M
Framed	RN-1PFR-B-I**XX**[1]-M
(matching frame and insert)	
Framed	RN-1PFR-B-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: 0.43 in (11 mm)

2-port frame

- Use with any 2 snap-in connectors

Unframed	RN-2PFR-B-F**XX**[1]-M
Framed	RN-2PFR-B-I**XX**[1]-M
(matching frame and insert)	
Framed	RN-2PFR-B-B**XX**[2]-M
(black frame/metal insert)	

W: 3.39 in (86.10 mm); H: 3.39 in (86.10 mm)
D: 0.43 in (11 mm)

Connectors for 1- and 2-port frames

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

MT-RJ feed through	CON-1F-MTRJ-WH
SC simplex	CON-1F-SC-WH
LC non-flush mount	CON-1F-LC-WH
ST style	CON-1F-ST-WH

Cable jack

F-style, 75-Ohm coaxial cable	CON-1C-**XX**[3]

BNC jack

BNC connector, 50-Ohm	CON-1B-WH

Connectors only for use with 6-port frame.

Cable outlet module

Diameter range 1.80 to 8 mm	CON-COTL-**XX**[3]

XX[1]: Matte, metallic and metal color codes, see pg. 648.
XX[2]: Metal color codes, see pg. 648.
XX[3]: Only available in White (WH) and Black (BK)

Shown actual size: 1-gang International square wallplate for Pico in Arctic White (PFP-1-B-FAW-CPN5692)

Pico mounted inside a one Pico control opening international square wallplate in Arctic White (PFP-1-B-FAW-CPN5692)

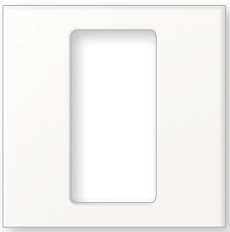
Product family features

- Intended to mount flush to the wall, no backbox required
- Use with Pico wireless controls
- All Lutron® wallplates are screwless, seamless and have no visible hardware; the front plate securely snaps into the alignment adapter plate
- Available for one or two Pico controls
- Adapter plate included with the wallplate as a kit

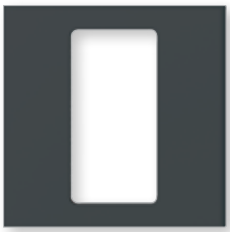
Color options

Use **BOLD** color code in model number (Example: PFP-1-B-F**SN**-CPN5692)

Matte finishes



AW
Arctic White



MN
Midnight

Metal finishes*

SN
Satin Nickel

BN
Bright Nickel

BB
Bright Brass

SB
Satin Brass

Two Pico wireless controls in a two Pico control openings international square wallplate

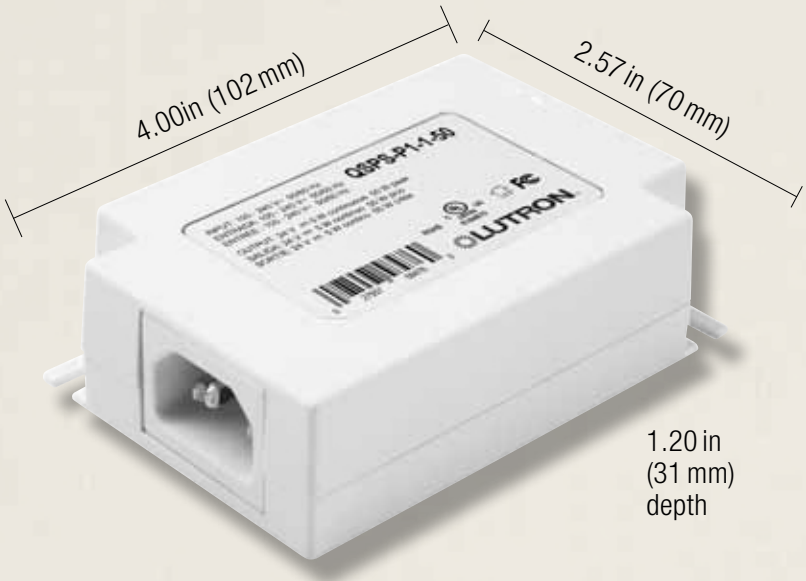
Model numbers

Square wallplate

1 Pico control opening	PFP-1-B-F**XX**[1]-CPN5692
2 Pico control openings	PFP-2-B-F**XX**[1]-CPN5692

XX[1]: 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.



Shown above: QS link plug-in power supply (QSPS-P1-1-50)

Features and capacities

- Supplies power to processors, keypads, shades, and accessories
- Output voltage: 24V DC
- 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: 2.57in (70mm)
  Height: 4.00in (102mm)
  Depth: 1.20in (31mm)
  Surface mount
- J-box:
  Width: 4.10in (104mm)
  Height: 4.30in (109mm)
  Depth: 1.40in (36mm)
  Mount in 4.00in (102mm) x 4.00in (102mm) junction box
- DIN-rail:
  Width: 3.50in (90mm)
  Height: 5.90in (150mm)
  Depth: 2.40in (61mm)
  Surface mount or mount on DIN-rail
- HomeWorks QS DIN-Rail:
  Width: 3.50in (90mm)
  Height: 3.50in (90mm)
  Depth: 2.40in (61mm)
  Surface mount or mount on DIN-Rail
- Panel:
  Width: 9.50in (241mm)
  Height: 17.50in (444mm)
  Depth: 3.90in (99mm)
  Surface mount

Model numbers

QS link power supply	
Plug-in, 100-240V AC, NEMA 5-15 plug	QSPS-P1-10-50
Plug-in, 100-240V AC, CEE 7/7 plug	QSPS-P2-10-50
Plug-in, 100-240V AC, BS 1363 plug	QSPS-P3-10-50
J-box, 120V AC	QSPS-J1-1-50
DIN-rail, 100-240V AC	STEP-PS/1AC/24DC/3.8/C2LPS-CPN5550
DIN-rail, HomeWorks QS, 100-240V AC	QSPS-DH-1-60
Panel, 120V AC	QSPS-P1-10-60
Panel, 230V AC (CE)	QSPS-P2-10-60
Panel, 100V AC (CE)	QSPS-P4-10-60

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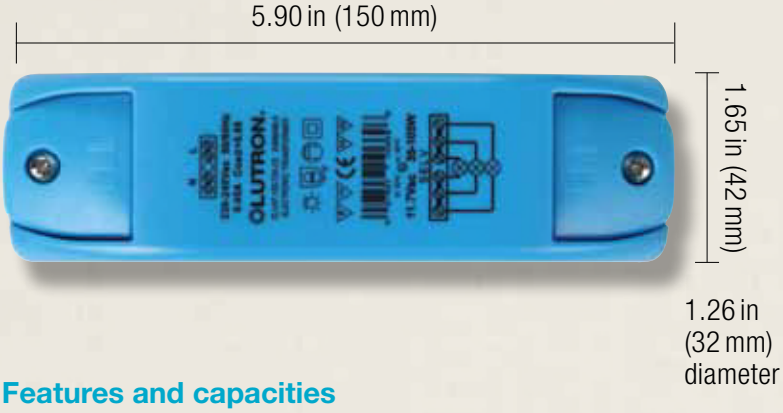


Features and capacities

- SELV-equivalent step-down converter for halogen lamps
- Compatible with Lutron leading or trailing edge 230 V (CE) products
- Incorporates short-circuit, thermal, and overload protection with self-resetting capabilities
- Input power: 230-240 V AC 50/60 Hz
- Available in 60 W or 105 W rated models

Dimensions and mounting

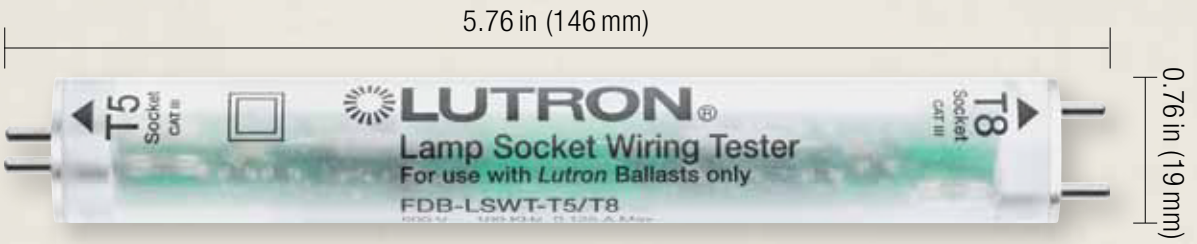
- Length: 5.90 in (150 mm)
  Height: 1.65 in (42 mm)
  Depth: 1.26 in (32 mm)
- Screw fixing located under each terminal cover/ strain relief for mounting

Model numbers

60 W electronic low-voltage transformer	
Terminals only on primary and secondary	ELVXF-60-T20-CE
Lead wires one pair on secondary	ELVXF-60-L21-CE
Lead wires one pair on primary and secondary	ELVXF-60-L22-CE

105 W electronic low-voltage transformer	
Terminals only on primary and secondary	ELVXF-105-T20-CE

Download specification submittal



Shown actual size: Lamp socket wiring tester (FDB-LSWT-T5/T8)

0.75 in (19 mm) diameter

Features and capacities

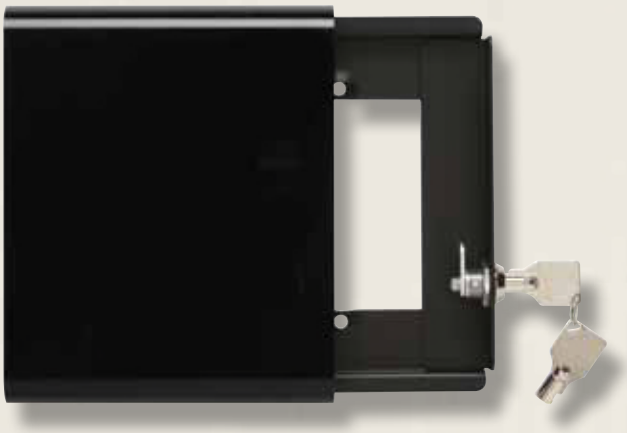
- Enables installers to easily verify proper pin wiring for fluorescent lamp sockets
- Aids in identifying: lamps wired in series, instant start sockets, wires not connected to the socket or ballast, and shorted socket wires
- Assist in avoiding common problems associated with ballast retrofits
- Test wires without having to open fixtures
- It is not designed to diagnose incorrect input wiring to the ballast or controls
- 600 V, 100 kHz, 0.125 A maximum, CAT III

Dimensions

- Product dimensions:
  Width: 5.76 in (146 mm)
  Height: 0.76 in (19 mm)
  Diameter: 0.75 in (19mm)

Model number

Tester	
Lamp socket wiring tester	FDB-LSWT-T5/T8



Features and capacities

- Prevents tampering with GRAFIK Eye/GRAFIK Eye® QS main units and system keypads/wallstations
- Permits infrared operation
- Models available for 1-, 2-, 3-, and 4-gang devices
- Available in translucent smoked gray
- Cover slides left or right

Model numbers

Lockable covers	
1-gang	GRX-1GLC
2-gang	GRX-2GLC
3-gang	GRX-3GLC
4-gang	GRX-4GLC

Shown above: Enclosure for QS control interfaces (LUT-5X10-ENC)

Features and capacities

- Provides mounting for one QS control interface
- Includes six available side knockouts as well as two bottom and one top knockout.
- Provides access for installations where running wiring through piping is desired or required by local code.
- Steel construction with black powder coat finish

Dimensions and mounting

- Width: 5.75 in (146 mm)
  Height: 10.75 in (273 mm)
  Depth: 2.00 in (50 mm)
- Screws to attach cover included
- Mounting screws provided by customer

Model numbers

Enclosure

Enclosure for QS control interfaces	LUT-5X10-ENC

Compatible with QS contact closure input/output interface, QS RS232/Ethernet interface and QS DMX512 output control interface

Download specification submittal

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

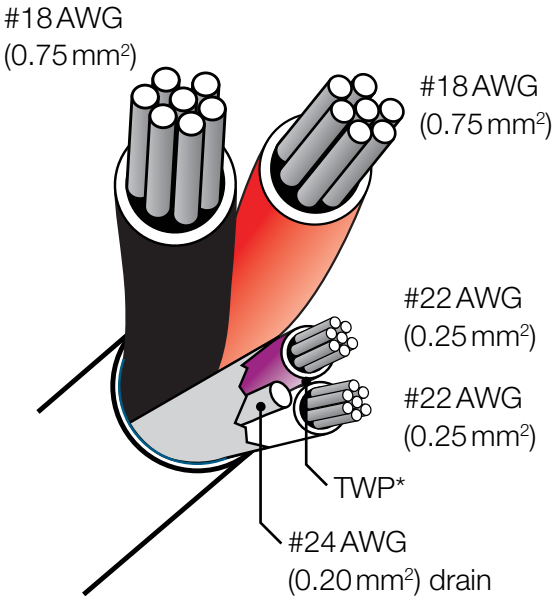
Mounting rack

Mounting rack for QS control interfaces	LUT-19AV-1U

Compatible with QS contact closure input/output interface, QS RS232/Ethernet interface and QS DMX512 output control interface

Download specification submittal

4-conductor cable



Features

- Available in 500 ft (150 m) spool
- Five conductors:
  Common—#18 AWG (0.75 mm²)
  Power—#18 AWG (0.75 mm²)
  MUX data—#22 AWG (0.25 mm²)
  MUX data—#22 AWG (0.25 mm²)
  Drain wire—#24 AWG (0.20 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 (5.30 mm)
- PVC sheath, 75° C rated
- Rated FT4

Model numbers

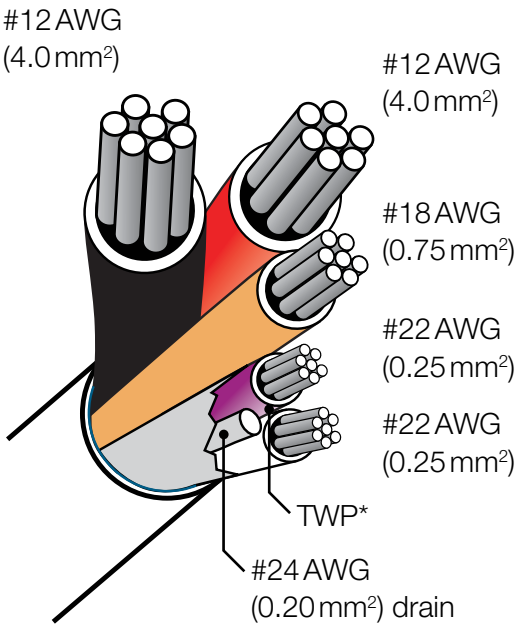
4-conductor cable

Plenum rated cable	GRX-PCBL-346S
Non-plenum rated cable	GRX-CBL-346S

Compatible with LCP128, Softswitch 128 (XPS), GRAFIK Eye 4000, Quantum and HomeWorks QS systems

*TWP = twisted wire pair

5-conductor cable



Features

- Available in 250 ft (75 m) or 500 ft (150 m) spools
- Six conductors:
  Common—#12 AWG (4.0 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 (0.20 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

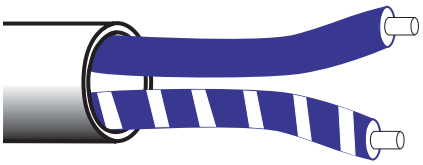
Plenum rated cable—250 ft	GRX-PCBL-46L-250
Plenum rated cable—500 ft	GRX-PCBL-46L-500
Non-plenum rated cable—250 ft	GRX-CBL-46L-250
Non-plenum rated cable—500 ft	GRX-CBL-46L-500

Compatible with GRAFIK Eye 4000 and Quantum systems.

*TWP = twisted wire pair

EcoSystem® cable

EcoSystem sensor cable



EcoSystem digital link cable

Features

- Internal conductors match EcoSystem® device terminal and lead color scheme
- Each conductor sized for direct connection to EcoSystem ballast and module terminals
- Three types of EcoSystem digital link cable: non-plenum cable (CL3R) for Class 2 applications, non-plenum cable (TC) for Class 1 applications and plenum cable for plenum Class 2 applications
- Two types of EcoSystem Class 2 sensor cable: plenum sensor cable (CL2P), non-plenum sensor cable (CL2R)
- Available in 1000 ft (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

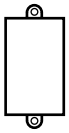
Plenum rated digital link cable, Class 2	C-PCBL-216-CL-1
Non-plenum rated digital link cable, Class 1	C-CBL-216-WH-1
Non-plenum rated digital link sensor cable, Class 2	C-CBL-216-GR-1
Plenum rated sensor cable	C-PCBL-522S-CL-1
Non-plenum rated sensor cable	C-CBL-522S-WH-1

Compatible with Quantum and HomeWorks QS systems.

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.

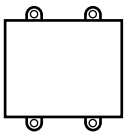
A



1-gang box
Width: 2.00 in (51 mm)
Height: 3.00 in (76 mm)
Depth: 2.50 in (64 mm)

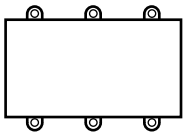
Standard ganging
Multiple dimmers, switches, wall sensors, and accessories typically mount in standard multi-gang electrical backboxes (**fig. B-D**) under standard multi-gang wallplates. Some devices may require derating.

B



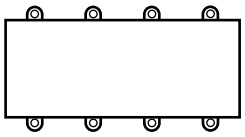
2-gang box
Width: 4.00 in (102 mm)
Height: 3.00 in (76 mm)
Depth: 2.50 in (64 mm)

C



3-gang box
Width: 6.00 in (152 mm)
Height: 3.00 in (76 mm)
Depth: 2.50 in (64 mm)

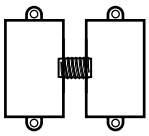
D



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.

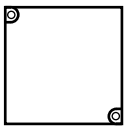
E



(2) 1-gang boxes
with 0.75 in (19 mm) spacer

Lighting load power interfaces (pg. 514)
Interfaces typically mount to a standard electrical junction box (**fig. F**); must be mounted within seven degrees of vertical. Maximum output: 5.10 in x 6.30 in. Interfaces project 1.20 in in front of box.

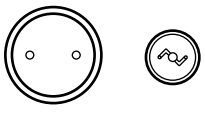
F



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. 435)
Ceiling/wall mount sensors (**fig. G**) mount to brackets provided utilizing included mounting hardware. Radio Powr Savr™ wireless sensors can be mounted temporarily with adhesive strips (P/N L-CMDPIRKIT)

G



Wireless sensor
mounting bracket
(3.20 in (81 mm) diameter
footprint, mounting
brackets are spaced
1.80 in (46 mm) apart)

Standard ganging and fins broken derating examples:

One HomeWorks® QS dimmer

No fins broken
Full capacity

Standard 1-gang backbox

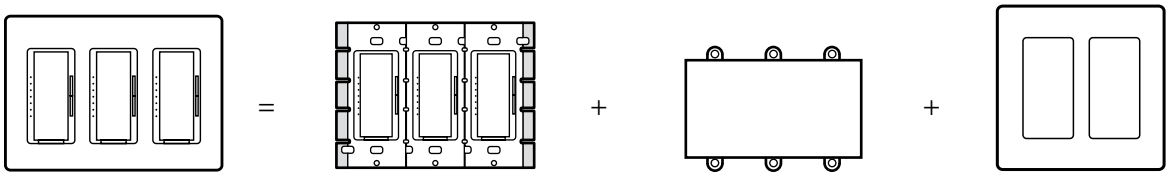
1-gang
Claro® wallplate

Two HomeWorks® QS dimmers
"Fins Broken" ganging

One fin broken*
Partial derating

Standard 2-gang backbox

2-gang
Claro wallplate



Three HomeWorks® QS dimmers
"Fins Broken" ganging

Inside: Two fins broken*
Full derating

Outside: One fin broken*
Partial derating

Standard 3-gang backbox

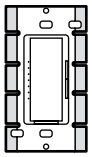
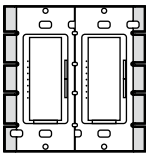
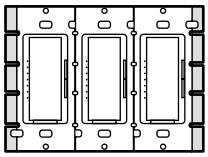
3-gang
Claro wallplate

For further information on ganging and derating, visit **www.lutron.com/multigang**.

*The fins are scored and designed to be removed easily.

Derating table

HomeWorks® QS

	No fins broken	1 fin broken	2 fins broken
Incandescent			
Dimmers	600 W	500 W	400 W
	1000 W	800 W	650 W
Magnetic low-voltage			
Dimmers	600 VA/450 W	500 VA/400 W	400 VA/300 W
	1000 VA/800 W	800 VA/600 W	650 VA/500 W
Electronic low-voltage			
Dimmers	600 W	500 W	400 W
Fluorescent/LED			
Hi-lume®/EcoSystem®/Hi-lume 3D/Hi-lume A-series LED Driver			
Dimmer	60 ballasts or 6 A	50 ballasts or 5 A	35 ballasts or 3.5 A
Lighting			
Switch	8 A	6.5 A	5 A
Dual-voltage switch	8 A	8 A	7 A
Motor			
Switch	3 A or 0.10 HP	3 A or 0.10 HP	3 A or 0.10 HP
Dual-voltage switch	3 A or 0.10 HP	3 A or 0.10 HP	3 A or 0.10 HP

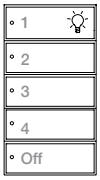
Engraving, backlit buttons/text, and icon table overview

seeTouch® QS and international QS keypads and GRAFIK Eye® QS main unit engraving codes

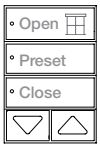
Omit Unengraved
Ships with engraving certificate that customer can redeem at no charge

EGN Standard Engraving

SGN Symbol-based Engraving



Lighting keypad



Shade 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/text

Depending on color of buttons, engraving is either displayed as backlit text or on backlit buttons.

Backlit buttons, typically on lighter colored buttons

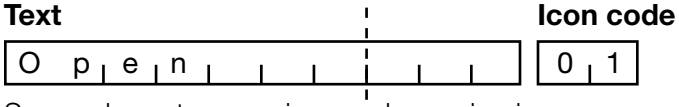
Backlit text, typically on darker colored buttons (BR, BL, SI, MN)

Engraving

- 10 characters maximum (including spaces)
- Seven characters maximum (including spaces) when using ALL CAPS (see next page for icon codes)
- Seven characters maximum (including spaces) when using an icon
- 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)

seeTouch QS keypad (Architectural matte and metal finishes)

seeTouch QS keypad (Satin finishes)

International seeTouch QS keypad

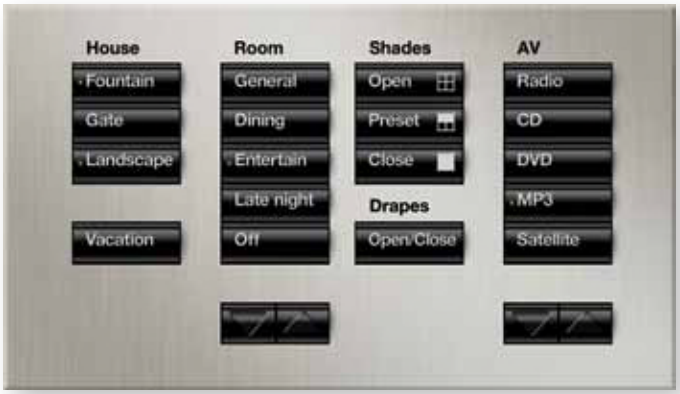
Lutron character symbols - icon table

CODE	APPEARANCE ON: LIGHT* BUTTON COLOR	DARK** BUTTON COLOR
01.		
02.		
03.		
04.		
05.		
06.		
07.		
08.		
09.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		
26.		
27.		
28.		
29.		
30.		
31.		
32.		
33.		
34.		
35.		
36.	1/4	1/4
37.	1/2	1/2
38.	3/4	3/4
39.		
40.	«	«
41.	»	»
42.		
43.		
44.		
45.		
46.		
47.		
48.		
49.		
50.		
51.		
52.		
53.		
54.		
55.		
56.		
57.		
58.		
59.		
60.		
61.		
62.		
63.		
64.		

* Light button colors include:
White (WH) Beige (BE) Almond (AL) Biscuit (BI) Snow (SW)
Ivory (IV) Gray (GR) Light Almond (LA) Eggshell (ES) Taupe (TP)

** Dark button colors include:
Black (BL)
Brown (BR)

Customized examples



Two-gang International seeTouch® QS control with custom button configuration

Two unique custom controls with customized button placements and engraving

Tabletop control to match seeTouch wall controls

As a finishing touch, add custom engraving, such as text, icons, and images

For more information on custom controls visit **www.lutron.com/customcontrols**.

Ivalo®

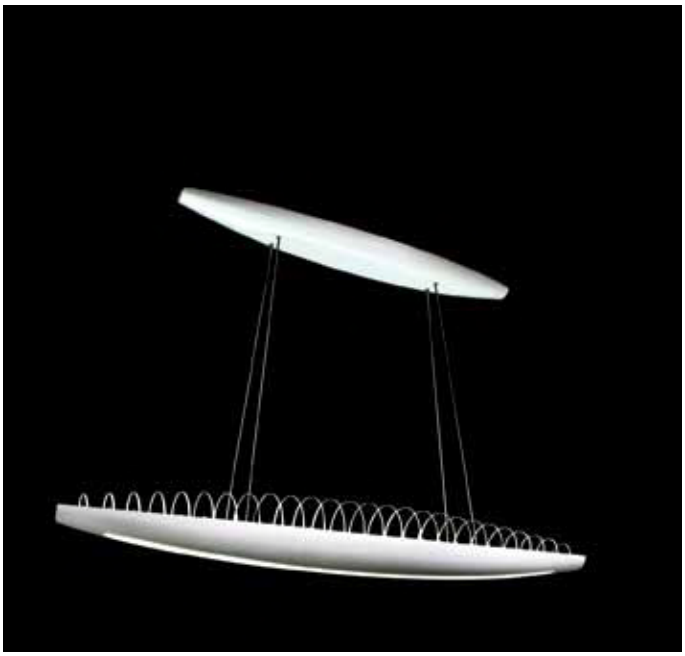
Smart design marries creative vision with progressive technology. Guided by this principle, Ivalo products aim to be functional, high-quality aesthetic solutions for every type of inhabitable space.

Ivalo fixtures are designed as architectural elements that are solutions to design problems. Each dimension and aspect of the form—including the canopy—is carefully considered.

Ivalo products are assembled in America with exceptional attention to detail and with our new available quick-ship program, select models can be delivered in two weeks.

Overview—Pendants

Interior



Aliante®

Aliante is designed for ballrooms and private offices, or over conference room tables, reception desks, dining tables, and kitchen islands.

- Length: 4 ft or 5 ft (adjustable)
- Light Orientation: direct/indirect or indirect only
- Lamp: dimmable and non-dimmable 1- or 2-lamp linear fluorescent T5 HO and T5 HE*
- Interior use

Interior

Rotare®

Rotare is designed for lobbies, atriums and private offices, or over conference room tables, reception desks, dining tables, and kitchen islands.

- Length: 4 ft 4 in (adjustable)
- Light Orientation: direct/indirect
- Lamp: dimmable and non-dimmable 1- or 2-lamp linear fluorescent T5 HO or T5 HE*
- Interior use

*Lamps are not included.

Overview—Pendants

Interior

L'ale®

L'ale is designed for ballrooms, lobbies, atriums and private offices, or over conference room tables and reception desks.

- Length: 4 ft 8 in (adjustable)
- Light Orientation: direct/indirect
- Lamp: dimmable and non-dimmable 2-lamp compact fluorescent*
- Interior use

Interior

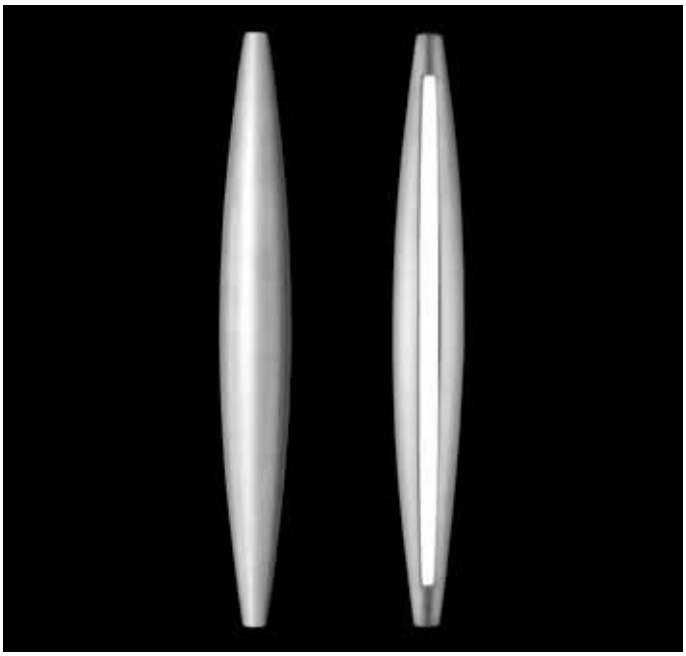
Daedalus®

Daedalus is designed for ballrooms, lobbies, atriums, reception areas, galleries restaurants and entry ways.

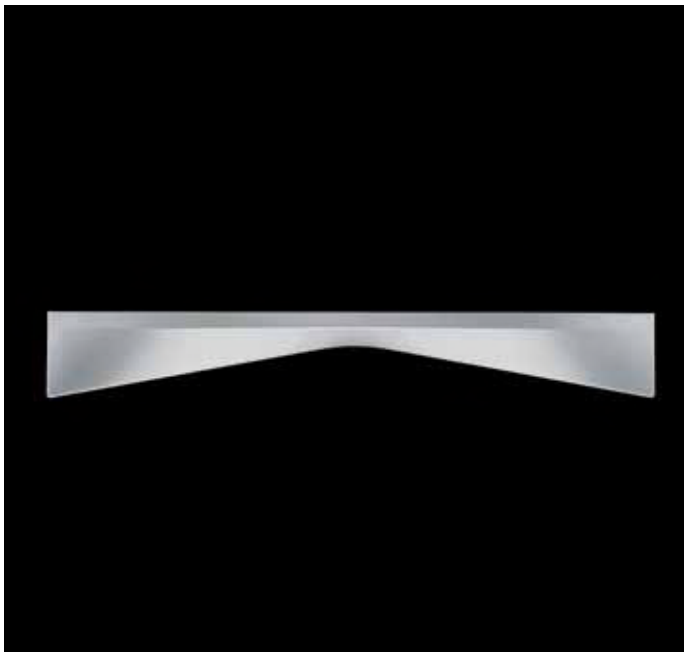
- Length: 5 ft (adjustable)
- Light Orientation: direct
- Lamp: Eight dimmable MR-11 low-voltage or non-dimmable LED MR-11 (available)*
- Interior use

Overview—Sconces

Exterior/interior



Exterior/interior



Aliante®

Aliante is designed for flanking doors, on columns, on building facades, and between windows/elevators.

- Length: 4 ft or 5 ft
- Light Orientation: direct/indirect or indirect only
- Lamp: dimmable and non-dimmable linear fluorescent T5 HO and T5 HE*
- Exterior/interior use

Rotare®

Rotare is designed for cove lighting in lobbies, conference rooms, reception areas and private offices.

- Length: 4 ft 4 in
- Light Orientation: indirect
- Lamp: dimmable and non-dimmable linear fluorescent T5 HO and T5 HE*
- Exterior/interior use

*Lamps are not included.

Overview—Sconces

Exterior/interior

Aliante® demi

Aliante demi is designed for flanking doors, TVs and fireplaces, and between windows/elevators.

- Length: 21 in or 27 in (27 in mount available for exterior models)
- Light Orientation: direct/indirect or indirect only
- Lamp: (interior) incandescent, dimmable and non-dimmable CFL, dimmable white LED (exterior) non-dimmable CFL, HID
- Exterior/interior use
- Energy Star® qualified with Tu-Wire® control option

ENERGY STAR

Exterior/interior

Silvus®

Silvus is designed for flanking doors and elevators, or mounted on columns; use singly, in a column, or in a field.

- Length: 24 in or 30 in
- Light Orientation: direct/indirect
- Lamp: white, amber, red, green, blue or dynamic color-changing RGB LED
- Exterior/interior use

Interior

L'ale®

L'ale is designed for flanking doors, TVs and fireplaces or between windows/elevators.

- Length: 27 in
- Light Orientation: direct/indirect
- Lamp: dimmable and non-dimmable white LED
- Interior use

Interior

Inflection®

Inflection is designed for ballrooms, lobbies, atriums, foyers, conference rooms, and reception areas.

- Length: 23 in
- Light Orientation: indirect
- Lamp: dimmable and non-dimmable compact fluorescent white, green and blue LED
- Interior use

Pendant and sconce colors and finishes

Finish Type	exterior/interior Powder Coat			interior (available in Gloss and Matte) Automotive Paint									interior Brushed	
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	o	o	o	•	•	•	o	o	o	o	o	o	o	o
Aliante Interior Sconce	o	o	o	•	•	•	o	o	o	o	o	o	o	o
Aliante Exterior Sconce	•	•	o	x	x	x	x	x	x	x	x	x	x	x
Daedalus® Pendant	x	x	x	•	•	•	o	o	o	o	o	o	x	x
Inflection® Sconce	o	o	o	•	•	•	o	o	o	o	o	o	x	x
L'ale® Pendant	x	x	x	•	•	•	o	o	o	o	o	o	x	x
L'ale Sconce	o	o	o	•	•	•	o	o	o	o	o	o	x	x
Rotare® Pendant/Sconce	o	o	o	•	•	•	o	o	o	o	o	o	x	x
Silvus® Interior Sconce	•	•	o	o	o	o	o	o	o	o	o	o	x	x
Silvus Exterior Sconce	•	•	o	x	x	x	x	x	x	x	x	x	x	x

Automotive Paint[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: 4 in
- 15 W/22 W
- 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

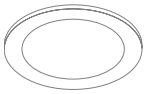
ENERGY STAR

Project Versatility

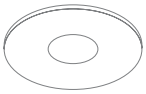
- Insulation contact (IC) (15 W only) and non-insulation contact (Non-IC) options are available.
- Easy maintenance
- Field-replaceable LED light module and driver. Change the color temperature and wattage after Finiré is installed without removing the fixture housing from the ceiling.
- Extended LED lamp and driver life
- Finiré contains a high-performance heat-sink for maximum LED life and the Lutron Hi-lume LED driver—both rated for 50,000 hours.
- Color Temperature
- Ranges from cool to warm, equivalent to the light output of 60-75 W incandescent lighting.

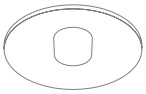
Trim Finish and Color Options

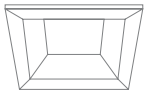
	Matte White*	Matte Black	Soft Glow Metal	Clear Bright Alzak	Wheat Alzak	Oil-Rubbed Bronze
Round*	•	•	•	•	•	•
Round Trimless	•	•	•	•	•	•
Round Pinhole	•					
Round Slotted Pinhole	•					
Square	•	•	•			
Square Trimless	•	•				
Square Pinhole	•					

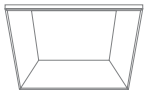

Round*

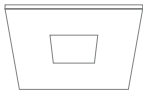

Round Trimless


Round Pinhole


Round Slotted Pinhole


Square


Square Trimless

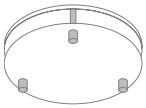

Square Pinhole

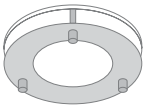
Lens Options

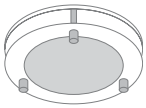
	Micro Prism Solite™*	Frosted Glass	None
Round	•	•	•
Square	•	•	•

Decorative Trim Options

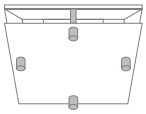
	Clear Glass	Frosted Glass Ring	Tier Center Frosted Glass	Stainless Steel Bezel
Round	•	•	•	•
Square	•	•		

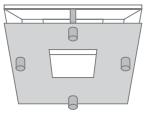

Round Clear Glass


Round Frosted Glass Ring


Round Tier Center Frosted Glass


Round Stainless Steel Bezel


Square Clear Glass


Square Frosted Glass Ring

*standard option

0-10V Control
An analog lighting control protocol. A 0-10V control modifies a voltage between 0-10V 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, RS232 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: 3.00in x D: 2.75 in). Also known as switchbox or wallbox.

Backlight
Internal illumination of a control device, panel or dimmer that creates a glow of the device. Allows for easy location of the device in a dark space and provide improved identification of elements of the control.

Backlit engraving
Illumination of engraved lettering or symbols from behind. Allows improve visibility of the engraved elements in low light conditions.

BACnet/LonWorks BMS integration
Connection of a Building Management System (BMS) to a lighting, shading or other system using industry standard communication protocols. BACnet and LonWorks are two of the commonly used protocols.

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

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 120 V, 220 V or 277 V operation.

Clear Connect® RF Technology
Lutron's advanced wireless RF communication protocol. Provides reliable communication between all Lutron® wireless products. It operates on a dedicated quiet frequency band, essentially free of interference. Using Lutron's own dedicated network ensures communication between system devices is reliably delivered, while the command structure ensures smooth, rapid system response.

COM (Customer's own material)
A shade systems acronym that stands for "Customer's Own Material" when motorized drapes are supplied. Customers occasionally submit a material for testing for a shade to ensure it performs properly and wears well.

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

Compact Fluorescent Lamp (CFL)
A high efficiency lamp type that can be dimmed using a matching dimming ballast and dimmer. Standard lamp types are Twin Tube, Quad Tube, and Triple Tube. They are available in 2-pin and 4-pin versions. To operate, both require an external ballast located in the fixture; 2-pin versions are not dimmable, and 4-pin versions are dimmable when used with a dimming ballast. Screw-base CFLs are designed to replace incandescent lamps in existing fixtures, but most are not dimmable.

Companion dimmer
Allows for dimming from two or more wall locations when used with a compatible multi-location dimmer.

Companion switch
Allows for switching from two or more wall locations when used with a compatible multi-location switch.

Contact closure
A manual switch, relay, or transistor used as means to interface Lutron control systems to/from other control systems.

Control interface
A general term for devices that allow the interconnection of various system components. Typically provides the connection of third party systems to Lutron systems. Usually operate on the input/low-voltage side of the device and connect to the digital (QS) bus.

Control zone
A lighting fixture or group of fixtures that are controlled simultaneously. For example: two wall sconces wired together and controlled with one dimmer is a control zone. Window shades can also be grouped together as zones.

Cornice
A top treatment option that offers flexibility and permits outside mount for shading systems without the need for recess pockets. Works with roller shades, roman shades and drapery systems.

Coupled shades
Shades systems' term for one electronic drive unit mechanically connected to control one or more adjacent roller shade panels.

Current
The electrical rate of flow, expressed in Amperes, similar to the water flow rate in a pipe (gal/min).

Daylighting
Lighting strategies that use the sun and sky as a diffuse light source, while shielding direct sunlight. Modern "Sustainable/Green" designs use Daylighting PhotoSensors that control dimmers/dimming ballasts to reduce electric lighting loads.

Daylight sensor
A device that senses daylight providing feedback for automatic dimming or switching of electrical lights, based upon changes of available daylight.

Derate
To reduce the current or power capacity (lighting load) that a control can reliably handle. Lutron controls must be derated when side sections of the yoke or fin have been removed from the unit (control) for ganging. The industry also derates other items such as circuit breakers.

Digital fade dimmers
A Lutron dimmer that has a gradual fade-to-off/fade-to-on feature when the switch is pressed, as compared to the more traditional slide-to-off or rotary dimmers with a knob that turns on/off. They include LED indicator lights show the relative light level in the room. Only available in certain styles.

Dimmed hot
Used in reference to the wiring connection of Lutron 3-wire dimming ballasts. It is the wire connection that provides a variable line voltage signal to the ballast. This signal adjusts the output level of the ballast. The other connections to the ballast are *Neutral* (N) and *Switched Hot* (SH).

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

Dimmer
An electronic control device used to vary the intensity of light output from a lamp source. Electronic dimmers provide energy savings as it reduces light level and power for any lamp type. It also provides longer lamp life for incandescent, halogen, low-voltage sources, e.g. 10% dimming doubles the expected lamp life.

Dimming ballast
An alternate device used to obtain the conditions (voltage, current and waveform) for starting and operating the lamp(s) while providing variable light output, i.e. dimming fluorescent lamp source(s); it must be matched to the lamp type, voltage and quantity. It is available, with less capability, for HID sources.

Dimming module
A subassembly that is installed into an electrical panel (dimming panel). The module provides one or more dimmer outputs. Modules are either a specific defined dimmer type or are programmable to be one of a selection of dimmer types. The electrical panels will contain one or more modules and vary in size depending on project requirements.

Dimming panel
An electrical cabinet containing three or more dimmers used to control multiple lighting zones. It is generally mounted in an electrical closet or equipment room.

Dimming range
Relative minimum and maximum light output achievable by a control or ballast, usually expressed as a percentage of measured light output.

Dim-out fabric
Dim-out fabric creates privacy from the outside while still allowing light to penetrate through the fabric. Dim-out fabrics by Lutron® are offered in two categories—translucent and privacy. Translucent fabrics reduce the view to shapes and shadows, while privacy fabrics showcase no view—only a soft glow of light.

DMX integration
Communicating with systems and devices that operate using the DMX-512 protocol. There are two aspects to integrating with DMX equipment. First sending DMX-512 commands and second receiving DMX commands.

Sending DMX: a Lutron® system generates DMX commands and communicates them over a bus to devices that operate using DMX. See DMX-512-A.

Receiving DMX: Lutron dimming systems accept DMX commands from third party control systems (i.e. theatrical stageboards). Common for applications are where there is both architectural lighting and theatrical lighting that needs to be controlled from the same control system.

Double-tap
A feature of some Lutron products in which two fast presses (in quick succession) bring lights on to full intensity, temporarily overriding any preset light level.

Driver
Auxiliary device(s) needed to operate and vary the intensity of light output from LED lamp source(s) by regulating the voltage and current powering the source.

Dual device
A combination dimmer, switch, timer or fan control that offers control for more than one group of lights or fans mounted in a one-gang electrical backbox.

Dual technology
In reference to occupancy sensors, the sensor uses combines two different sensing technologies. Typically IR sensing and ultrasonic sensing are utilized together.

Efficiency
See Luminous efficacy.

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

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 12 V). 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 665 when ganging dimmers.

Fixture
Common term for a luminaire.

Flap and hanger
Shading Systems' two-piece structure designed to conceal the roller system in a recessed ceiling installation.

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

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 ≥ 6 mA). It is intended to provide protection from potentially dangerous ground-fault currents.

Halogen lamp
A higher efficiency type of incandescent lamp in which halogen is added to the filling gas and has a quartz glass inner envelope. These additions allow the lamp to operate more efficiently at a higher color temperature. (Also called quartz halogen or tungsten halogen).

Hand-held programmer
Hand-held device used to assist in programming a lighting control system.

HVAC
Heating, Ventilating, and Air-Conditioning systems designed by mechanical engineers.

IECC
International Energy Conservation Code—a U.S. cross national energy codes standard.

IEEE
Institute of Electrical and Electronics Engineers.

IES/NA
Illuminating Engineering Society of North America.

Incandescent lamp
An electric lamp in which a filament gives off light when heated by an electric current. Standard light bulbs are incandescent line voltage (120 Volt). They offer excellent color rendering and are simple to replace. Newer types of incandescent bulbs include halogen and tungsten-halogen (quartz).

Infrared (IR)
Signals in the frequency range just below visible light. IR signals are often used for remote controls for televisions and other audio video products. Many products use Lutron® IR signals for hand-held remote control of lighting and/or shades.

Infrared (IR) receiver
A component that receives signals from an IR transmitter. Requires line-of-sight for functionality. Lutron products with IR receivers include dimmers, control units and shading products.

Infrared (IR) transmitter
A component that transmits signals to an IR receiver. Requires line-of-sight for functionality. Often referred to as a "hand-held" remote control device.

Inmetro mark
A mark that is placed on products that are certified to meet required product safety standards in Brazil.

Interface
A) A power-handling device that allows a control to dim or switch additional lighting load types.

B) A low-voltage device that allows equipment such as telephone interfaces, astronomical time clocks, car visor controls, photocells, shades, screens, security systems, and other types of controls to work in conjunction with various Lutron controls and systems.

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

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/green/blue." 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 V AC in U.S., 240 V AC 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, 12, or 24 V. The bulbs contain a smaller filament than incandescent bulbs for higher efficiency and more precise beam control. These bulbs have a long life expectancy and bright white light. Low-voltage lighting may use magnetic or electronic transformers. Also see Line voltage.

Luminous efficacy
The ratio of light emitted to the power required for a light source or luminaire. Commonly used to measure energy efficiency, it is the lumens per watt from a light source (amount of light per watt of power).

Magnetic low-voltage (MLV)
A lighting source that uses a magnetic transformer to step down the incoming line voltage to that required by the lamp (typically 12 V). Recessed lights are most often magnetic low-voltage. Magnetic low-voltage lights tend to be larger and heavier than electronic low-voltage.

Mechanical (general purpose) switch
An on/off device that uses a set of metal contacts, which open or spread apart to turn off a load and make contact or come together to turn the load on. These devices sometimes have a locator light circuit across these contacts. These locator lights may either be LED or neon indicator. Mechanical switches typically do not need to be derated when ganged. This product is listed under UL20, which is the standard for general-purpose snap switches.

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

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 (two locations) and 4-way (multi-location) circuits. A multi-location dimmer can be used with companion dimmers or accessory dimmers for dimming from two or more locations.

Neon/Cold cathode (NCC)
A tubular shaped lamp that is filled primarily with neon or argon gas. A large voltage is put across the lamp, which creates an arc across the tube. This arc creates ultraviolet light. The phosphor coating on the tube then changes the ultraviolet light to visible light. Dimming controls must be matched to transformer type.

Non-Dimmed Load (Switched Load)
A load that can only be turned on/off and not set at any intermediate lighting level or motor speed. This term can refer to a lighting load, a fan, or a motor load.

Occupancy/vacancy sensor
A device that detects the presence/absence of people in a space and provides automatic switching or dimming of lighting. Their primary purpose is to automatically turn lighting Off when an area is not occupied to ensure energy savings. Both types of sensors turn lighting Off after a preset period of time when they no longer detect a person. An occupancy sensor will also turn lighting On automatically when it detects a person (Auto On/Auto Off). Also see Vacancy sensor.

Openness factor
Openness factor is a percentage indicating how much of a fabric's weave is open to permit light and views to pass into a space. Percentages typically range between 1%, 3%, 5%, and 10%, where 1% allows less light transmittance and 10% offers greater light transmittance.

Override
A temporary setting that does not affect a system's programming.

Partitioning
A room that is divisible by moveable walls is called a partitioned room. Partitioning is when a lighting control system can adapt its controls according to how that room is currently partitioned.

PELV
Protective extra low-voltage. Common usage IEC PELV.

Pendant lighting
Lighting fixtures suspended from the ceiling surface via pipe, chain or cable—requires power wires to be considered in selection/design of fixture (derives from "hanging ornament").

Phase control
A form of pulse width modulation (PWM) for power limiting, applied to AC voltages. It works by using a solid-state switch, such as a triac, to only allow current to flow for part of the time.

Photo Sensor
Another name for a daylight sensor.

Pinch pleat
Refers to a style of drape characterized by pleats gathered at the top of the drapery. Also see Ripplefold.

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

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**.

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

Sensor
A device that detects motion, heat, partition status, etc. that allows for automatic control of dimming and switching systems. (See Occupancy, Vacancy, and Daylight sensors).

Sequencing
The mode during which preset lighting scenes change in a designated order using fade times that have been programmed.

Sheer fabric
Sheer fabrics reduce solar heat gain and UV penetration while maintaining views to the outside. Lutron® sheer fabrics are offered in SheerShade®, designer, and dual-sided sheer fabric options to accommodate the needs of any space. SheerShade fabrics are measured by "openness factor" which describes the ration of open space to fabric yarn in a weave.

Sill angle
A two-sided piece of metal designed to work with shades in order to complete a blackout design by stopping light leaks below the shade.

Single-pole switch/dimmer
A switch or dimmer that controls a lighting zone from one location only.

Single-gang backbox
A device installed in a wall intended to house a single switch or dimmer.

Slider
The linear actuator on the front of a dimmer that adjusts the light level.

Softswitch
A Lutron patented one million cycle switching solution, which limits in-rush current at turn-on.

Solar radiation
Radiant energy emitted by the sun. Solar shades work to reduce this energy.

Solar reflectance
Percentage of solar radiation reflected back out by the fabric.

Solar transmittance
Percentage of solar radiation that passes through the fabric.

Solid-state
A product or system that utilizes a semiconductor.

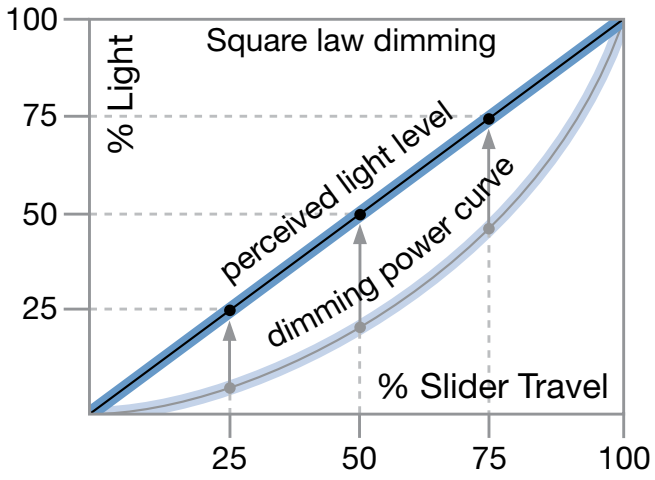
Specification series
A class of products specifically designed to meet or exceed the rigorous demands of heavy-use/commercial applications. Dimmer(s) that meet this specification are comprised of heavy-duty components for surge protection and long product life, electrostatic discharge protection and voltage compensation. They include features such as power failure memory, Square Law Dimming, Superior RFI suppression, and are UL CSA Listed.

Specifications
Specifications define the qualitative requirement for products, materials, workmanship, and administrative requirements upon which the project is based. Specifications provide detailed requirement for the physical properties, chemical constituents, performance requirements, and standards of workmanship associated with the manufacture and installation of materials, equipment, and components.

Square law dimming
A dimmer is calibrated so that the linear slider position or LED indicator column provides a representation of the light level perceived by the user. For example, if the slider is set at the halfway point or one-half or the column of LEDs is lit the light level appears to be at 50%. Dimmers adjusted in this way will also use the full range of the slider or LED indicators without any "dead" travel at the top or bottom slide position or indicator LED.

For more detailed glossary of terms, go to **www.lutron.com/glossaryofterms**.

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 two states (typically on/off) with each touch.

Transformer
A device that changes line voltage (120 V or 277 V) 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 Ⓤ label (UL Listed)
A product adhering to the standards of Underwriters Laboratories, a company nationally recognized for product safety testing (the product is not "approved" nor tested for performance). Underwriters Laboratories was initially created by insurance companies to reduce fire risks. In Canada, CSA is the listing required; in other countries, other listings are required. All Lutron products are UL listed.

UL Ⓤ standard
A document published by UL which details the requirements that must be met by a specific product type in order to be listed or recognized.

Vacancy sensor
A device that detects the absence of people in a space and provides automatic switching or dimming of lighting. The primary purpose is to automatically turn lighting Off when an area is not occupied to ensure energy savings. A vacancy sensor relies on a person operating a manual switch to turn lighting On (Manual On/Auto Off). Also see Occupancy sensor.

Voltage
The electrical potential, measured in Volts (V), supplied by an electrical system. In the U.S. 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 120/208 V known as a 3-phase service. The interior lighting in these applications generally uses 120 V 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: 3.00 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 two wall sconces wired together with one dimmer. Lutron window shades can also be grouped together as zones.

Zone capacity
The maximum capacity limit of watts/VA per zone for an individual control, e.g. GRAFIK Eye® 3000 product line has a limit of 800 watts per zone.

Zone capture
A programming shortcut that adds a particular circuit to a specific zone.

Zone lighting
In dimming, lights that are operated together.
See Control Zone.

Africa

Algeria	230V (CE)
Angola	220V
Benin	220V
Botswana	230V
Burkina Faso	220V
Burundi	220V
Cameroon	220V
Canary Islands	220V
Cape Verde	220V
Central African Republic	220V
Chad	220V
Comoros	220V
Congo, Dem. Rep. of (former Zaire)	220V
Congo, People's Republic of	230V
Cote d'Ivoire	220V
Djibouti	220V
Egypt	220V
Equatorial Guinea	220V
Eritrea	230V
Ethiopia	220V
Gabon	220V
Gambia	230V
Ghana	230V
Guinea	220V
Guinea-Bissau	220V
Ivory Coast (see Cote d'Ivoire)	
Kenya	240V
Lesotho	220V
Liberia	120V
Libya	127V
Madagascar	220V
Malawi	230V
Mali	220V
Mauritania	220V
Mauritius	230V
Morocco	127/220V
Mozambique	220V
Namibia	220V
Niger	220V
Nigeria	240V
Rwanda	230V
Réunion Island	220V
São Tomé and Principe	220V
Senegal	230V
Seychelles	240V
Sierra Leone	230V
Somalia	220V
South Africa	220/230V
Swaziland	230V
Tanzania	230V
Togo	220V
Tunisia	230V
Uganda	240V
Zambia	230V
Zimbabwe	220V

Asia

Afghanistan	220V
Bahrain	230V
Bangladesh	220V
Bhutan	230V
Brunei	240V
Cambodia	230V
China, People's Republic of	220V
East Timor	220V
Hong Kong	220V
India	230V
Indonesia	127/230V
Iraq	230V
Israel	220V
Japan	100/200V
Jordan	230V
Kazakhstan	220V
Kuwait	240V
Kyrgyzstan	220V
Laos	230V
Lebanon	110/220V
Macau	220V
Malaysia	240V
Maldives	230V
Mongolia	220V
Myanmar (formerly Burma)	230V
Nepal	230V
Oman	240V
Pakistan	220V
Philippines	220V
Qatar[1]	240V
Russia	220V
Saudi Arabia[1]	127*/220V
Singapore	230V (CE)
South Korea	220V
Sri Lanka	230V
Syria	220V
Tajikistan	220V
Taiwan	110V

*Currently available, but soon to be phased out.

[1]Scheduled to require products with CE marking in the future.

Thailand	220V (CE)
Turkey	230V (CE)
Turkmenistan	220V
United Arab Emirates	220V
Uzbekistan	220V
Vietnam	127/220V
Yemen, Rep. of	220/230V

Europe

Albania	220V
Andorra	230V
Armenia	220V
Austria	230V (CE)
Azerbaijan	220V
Azores	220V
Balearic Islands	220V
Belarus	220V
Belgium	230V (CE)
Bosnia	220V
Bulgaria	230V (CE)
Channel Islands	230V
Croatia	230V (CE)
Cyprus	240V (CE)
Czech Republic	230V (CE)
Denmark	230V (CE)
England (see United Kingdom)	
Estonia	230V (CE)
Faroe Islands	220V
Finland	230V (CE)
France	230V (CE)
Georgia	220V
Germany	230V (CE)
Gibraltar	240V
Great Britain (see United Kingdom)	
Greece	240V (CE)
Hungary	230V (CE)
Iceland	230V (CE)
Ireland (Eire)	230V (CE)
Isle of Man	240V
Italy	230V (CE)
Latvia	220V (CE)
Liechtenstein	230V (CE)
Lithuania	230V (CE)
Luxembourg	240V (CE)
Macedonia (FYROM)	230V (CE)
Madeira	220V
Malta	240V (CE)
Moldova	220/240V
Monaco	127/220V
Montenegro	220V
Netherlands	230V (CE)
Netherlands Antilles	127/220V
Norway	230V (CE)
Northern Ireland (see United Kingdom)	
Poland	230V (CE)
Portugal	230V (CE)
Romania	230V (CE)
San Marino	230V
Scotland (see United Kingdom)	
Serbia	220V
Slovak Republic	230V (CE)
Slovenia	230V (CE)
Spain	230V (CE)
Sweden	230V (CE)
Switzerland	230V (CE)
Ukraine	220V
United Kingdom	230V (CE)
Vatican City	230V (CE)
Wales (see United Kingdom)	

North America/ Central America/ Caribbean

Anguilla	110V
Antigua	230V
Aruba	127V
Bahamas	120V
Barbados	115V
Belize	110/220V
Bermuda	120V
Canada	120/347V
Cayman Islands	120V
Costa Rica	120V
Dominica	230V
Dominican Republic	120/240V
El Salvador	115V
Greenland	220V
Grenada (Windward Is.)	230V
Guadeloupe	230V
Guatemala	120V
Haiti	110V
Honduras	110V
Jamaica	110V
Martinique	220V

Mexico	127V
Montserrat (Leeward Island)	230V
Nicaragua	120V
Panama	110/120V
Puerto Rico	120/277V
St. Kitts and Nevis (Leeward Island)	230V
St. Lucia (Windward Is.)	240V
St. Vincent and the Grenadines (Windward Island)	230V
Trinidad & Tobago	115V
United States of America	120/277V
Virgin Islands (British and U.S.)	115V

Oceania

American Samoa	120V
Australia	240V
Cook Islands	240V
Fiji	240V
Guam	110V
Kiribati	240V
Marshall Islands	110V
Micronesia (Federal States of)	120V
Nauru	240V
New Caledonia	220V
New Zealand	230V (CE)
Palau	110-120V
Palmyra Atoll	120V
Papua New Guinea	240V
Samoa	230V
Solomon Islands	220V
Tahiti	110/220V
Tonga	240V
Tuvalu	220/240V
Vanuatu	230V

South America

Argentina	220V
Bolivia	220/230V
Brazil	127/220V
Chile	220V
Colombia	110V
Ecuador	120-127V
Falkland Islands	240V
French Guiana	220V
Guyana	240V
Paraguay	220V
Peru	220V
Suriname	127V
Uruguay	220V
Venezuela	120V

Contact your Lutron® representative for countries not listed.

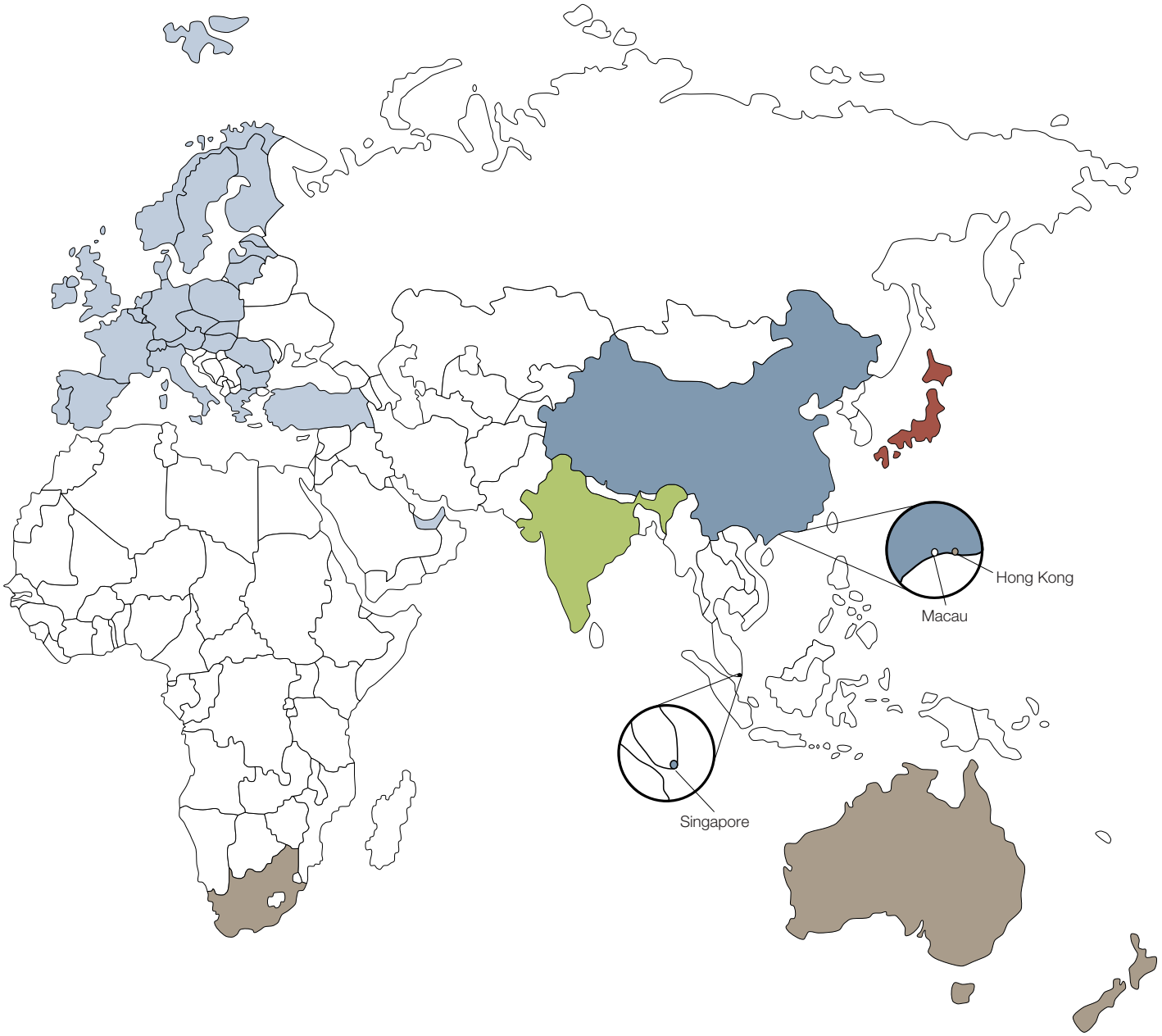
Primary source: www.kropla.com/electric2.htm

	434 MHz (434-437)	**Limited 434 MHz** (433.05-434.79)	**Limited 315 MHz** (312.3314.8)	**865 MHz** (865.5-866.5)	**868 MHz** (868-870)	**Limited 868 MHz** (868.0-868.6)
U.S.A.	•					
Canada	•					
Mexico	•					
Brazil	•					
Chile	•					
Panama	•					
Costa Rica	•					
Ecuador	•					
Dominican Republic	•					
El Salvador	•					
Peru	•					
Trinidad and Tobago	•					
Bermuda	•					
Venezuela	•					
Columbia	•					
Japan			•			
Argentina		•				
European Economic Area (EEA)					•	
Saudi Arabia					•	
UAE					•	
India				•		
Hong Kong		•				
China						•
Singapore						•

Not all products are certified in every country.

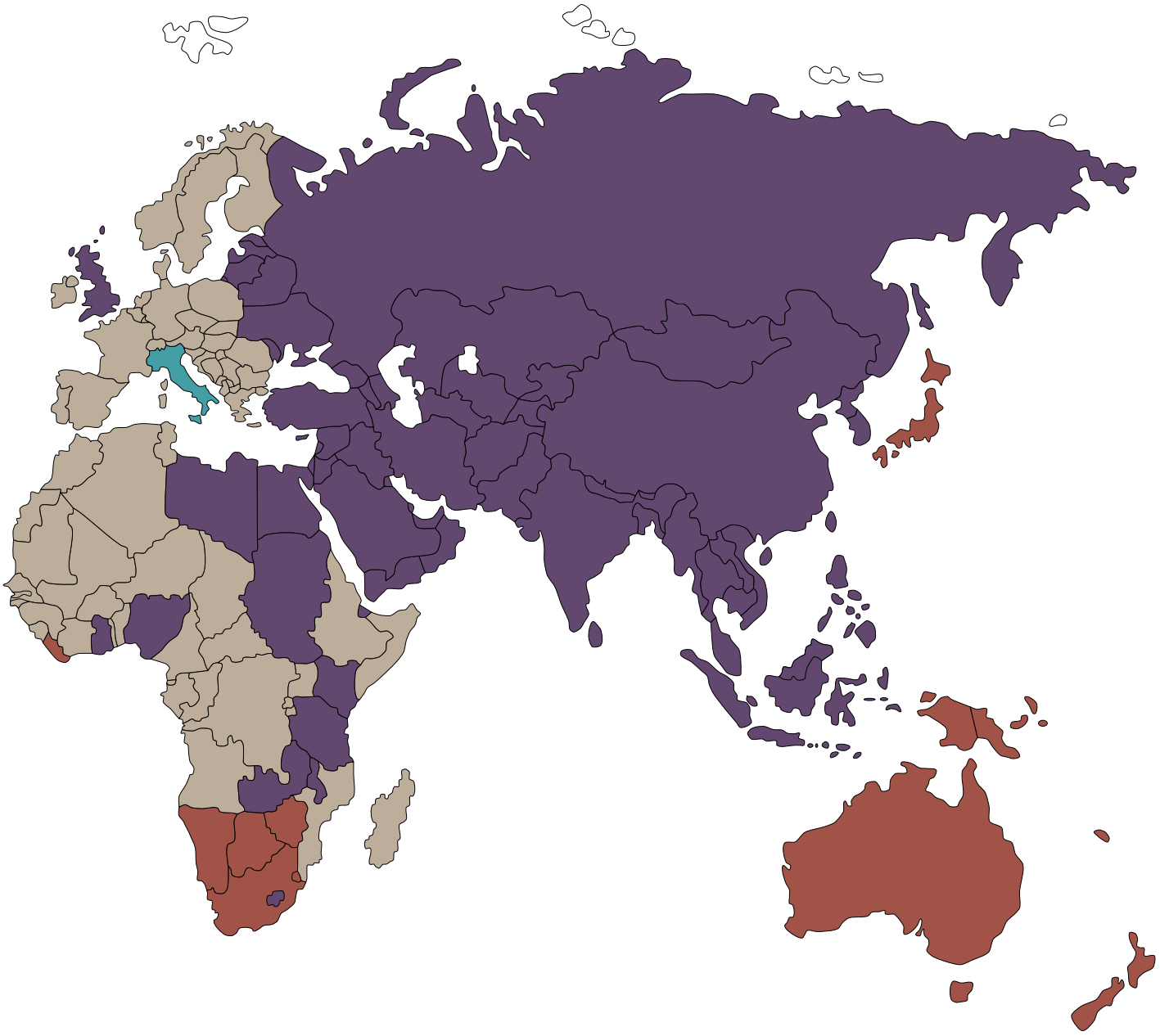
RF frequencies

- 434 MHz
- 434 MHz Limited Channel
- 315 MHz
- 865 MHz
- 868 MHz
- 868 MHz Limited Channel
- No RF product approvals


Hong Kong
Macau
Singapore

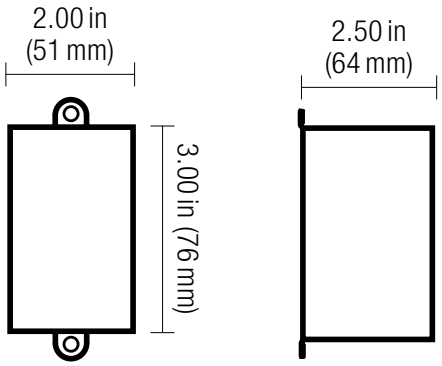
Backbox styles

- U.S. style backbox
- Round backbox (EBB-15-RD)
- Square backbox (EBB-15-SQ)
- Italian style backbox



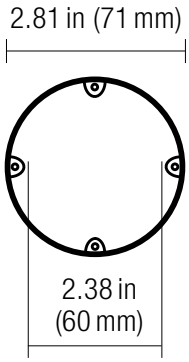
Backbox dimensions

U.S. style backbox



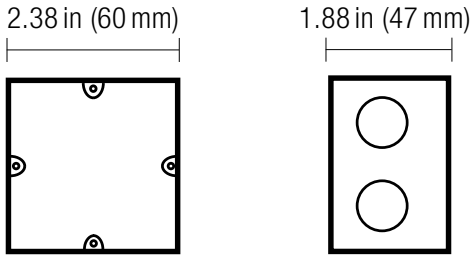
1-gang box
Width: 2.00 in (51 mm)
Height: 3.00 in (76 mm)
Depth: 2.50 in (64 mm)

Round backbox (EBB-15-RD)



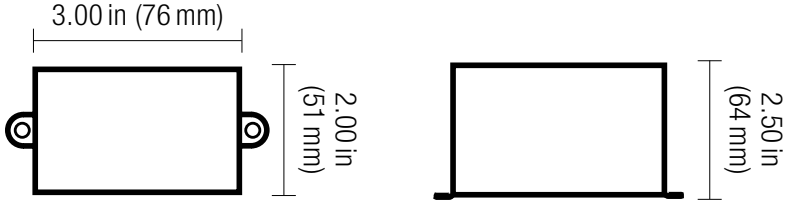
1-gang box
Width: 2.81 in (71 mm)
Height: 2.81 in (71 mm)
Depth: 2.38 in (60 mm)

Square backbox (EBB-15-SQ)



1-gang box
Width: 2.38 in (60 mm)
Height: 2.38 in (60 mm)
Depth: 1.88 in (47 mm)

Italian style backbox



1-gang box
Width: 3.00 in (76 mm)
Height: 2.00 in (51 mm)
Depth: 2.50 in (64 mm)

Power Draw Units (PDUs) on the QS Link

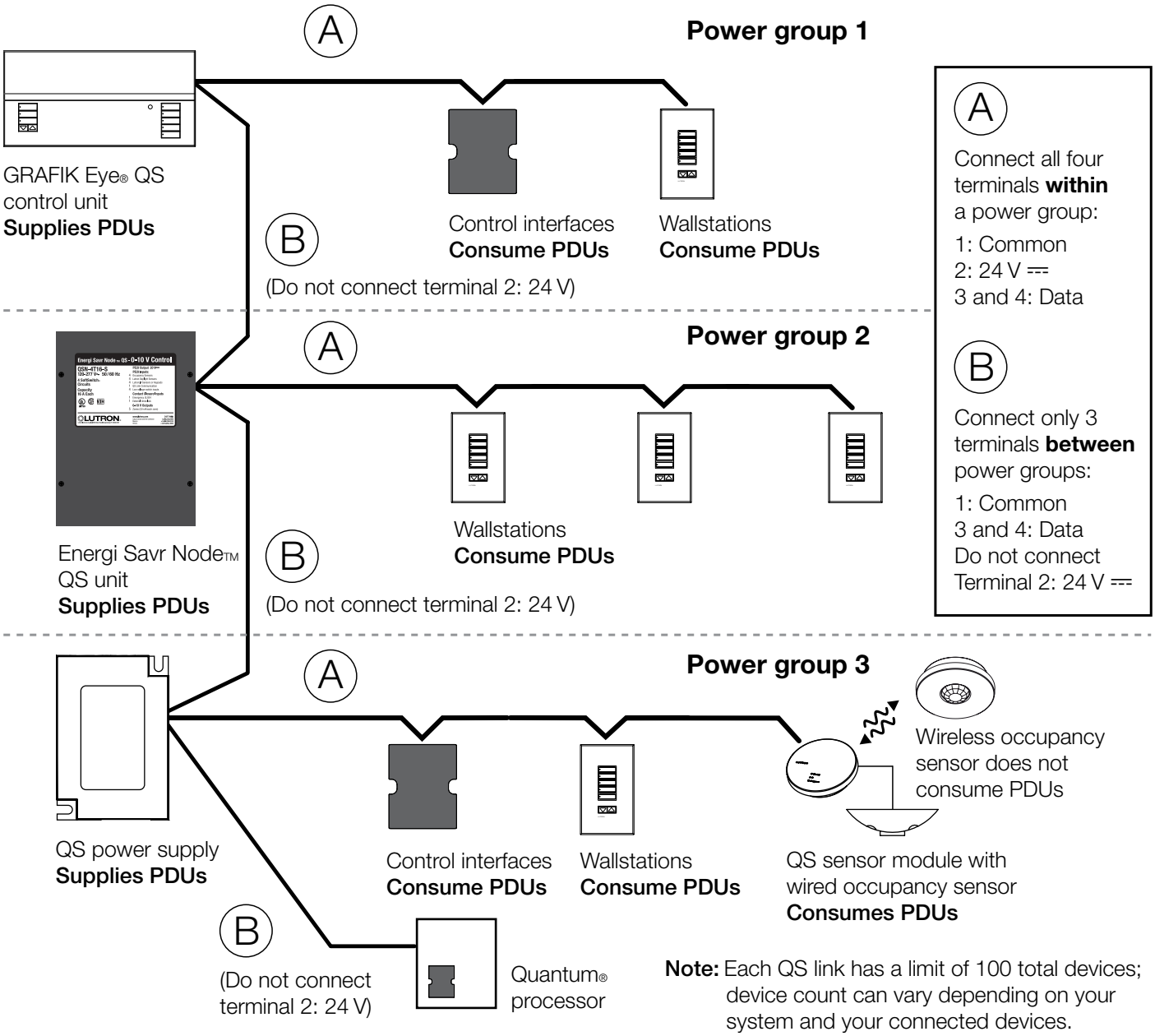
On the QS link, there are devices that supply power and devices that consume power. Each device has a specific number of Power Draw Units (PDUs) it either supplies or consumes.

A Power Group consists of one device that supplies power and one or more devices that consume power; each Power Group may have only one power-supplying device.

Within Power Groups on the QS link, connect all four terminals (1, 2, 3, and 4), shown by the letter A in the diagram. Between devices on the QS link that supply power, connect only terminals 1, 3, and 4 (NOT terminal 2), shown by the letter B on the diagram.

Wiring can be T-tapped or daisy-chained.

Power Group Wiring Example



Note: Each QS link has a limit of 100 total devices; device count can vary depending on your system and your connected devices.

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
GRAFIK Eye® QS	3-Zone phase control	QSGRJ-3P	3	1	3	0
	4-Zone phase control	QSGRJ-4P	4			
	6-Zone phase control	QSGRJ-6P	6			
	6-Zone EcoSystem®	QSGRJ-6E	6			
	8-Zone EcoSystem	QSGRJ-8E	8			
	16-Zone EcoSystem	QSGRJ-16E	16			
	6-Zone DALI	QSGRK-6D	6		3	
	8-Zone DALI	QSGRK-8D	8			
	16-Zone DALI	QSGRK-16D	16			
Energi Savr Node™	Softswitch®	QSN-4S16-S	4	1	14	0
	0-10V	QSN-4T16-S				
	0-10V/Switching (DIN-rail)	QSNE-4T10-D				
	Switching (DIN-rail)	QSNE-4S10-D				
	DALI (DIN-rail)	QSNE-2DAL-D	16		3	
	EcoSystem Single-Link	QSN-1ECO-S	Up to 100		30	
	EcoSystem Dual-Link	QSN-2ECO-S				
	EcoSystem Dual-Link (DIN-rail)	QSNE-2ECO-D			3	
	Phase-adaptive (DIN-rail)	QSNE-4A-D	4		4	
QS link power supply	Plug-in power supply	QSPS-P1-1-50	0	0	8	0
	10-Output shade panel	QSPS-P1-10-60		1	8 per output	
	J-box power supply	QSPS-J-1-50	0	0	8	0
	DIN-rail power supply	QSPS-DH-1-60	0	0	75	0

QS device	Product description	Model number	Zone count	Device count	PDUs supplied	PDUs consumed
Quantum light management hub	QP2	QP2-	0	1 or 2 based on # of processors	Link A:0 Link B, C, D: 32 each	0
	QP3	QP3-1PL-100-240		1	Link A, B: 32 each	
QS sensor module	QS sensor module	QSM2-4W-C	0	1	0	3
	Added wired occ/vac sensor	LOS-…		0		2
	Added wired daylight sensor	EC-DIR-WH				0.5
	Added wired IR receiver	EC-IR-WH				0.5
	Added 4-button EcoSystem wallstation	CC-4BRL-WH				1
	Added Pico® Wired control	PX-…				0.5
Other QS accessories	seeTouch® QS keypad	QSWS2-	0	1	0	1
	International QS keypad wallstation	QSWE-	0			1
	QS contact closure interface	QSE-IO	Up to 5			3
	QS network interface	QSE-CI-NWK-E	0			2
	QS DMX interface	QSE-CI-DMX	0			2
	QS keyswitch	QSWS2-KS...	0			1
	QS infrared Eye	QSE-IR-WH	0			1
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.

QS device	Product description	Model number	Zone count	Device count	PDUs supplied	PDUs consumed
HomeWorks® QS	Processor	HQP6-2-120	0	1	0	8
	Hybrid repeater (without plug-in)	HQR-REP-120	0	1	0	3
	Hybrid repeater (with plug-in)	HQR-REP-120	0	1	0	0
	Wallbox power module	HQRJ-WPM-6D-120	6	1	0	0
	seeTouch keypad	Various	0	1	0	1
	Dynamic keypad	HQ-J-DK420-	0	1	0	6

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Abella; Aliante; Ariadni; Attaché; Aurora; Aviena; C•L; Ceana; Centurion; CERUS; Chronos; Claro; Clear Connect; Credenza; Daedalus; Dalia; Dimming by Lutron; Diva; Earn & Learn; Eco-10; eco-dim; eco-minder; EcoSystem; EcoSystem H-Series ballast; Energi Savr Node with EcoSystem; Energi Savr Node with Softswitch; Energi TriPak; Faedra; Fandial; Fassada; Finiré; Glyder; GRAFIK 6000; GRAFIK Eye; GRAFIK Eye 3600; GRAFIK Eye 4000; GRAFIK Eye 4100/4500; GRAFIK Eye QS; GRAFIK Eye QS with EcoSystem/DALI; GreenGlance; Greenovation; Hi-lume A-Series LED driver; Hi-lume ballast; Hi-lume 3D ballast; HomeWorks; HomeWorks Illumination; HomeWorks QS; Hyperion; Inflection; Ivalo; Kirbé; L'ale; Light Greener, Light Better; Lumea; Lutron; Lutron Dimmers Save Energy; Lyneo; Lyneo Lx; Maestro; Maestro IR; Maestro Wireless; microWATT; Milenyia; Nova; Nova T☆; Orion; Osprey; Personna PC; Pico wireless control; Pico wired control; PowPak; Qoto; Quantum; Quantum Select; RadioRA; RadioRA 2; RadioTouch; Ranax; Rania; Rotare; RTISS Equipped; Satin Colors; Save Energy; See As You Save; seeTouch; seeTouch QS; Serena; SheerShade; Silvus; Sivoia; Sivoia QED; Sivoia QS; Skylark; Skylark Contour; Softswitch; Softswitch128; Solaris; Spacer; Spacer System; Stanza; T☆; The Ultimate Home Theater Experience; Toggler; Triathlon; Tu-Wire; Vareo; Versaplex; Vierti; Viseo.

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Product approvals:

The products in this catalog are UL listed as required; most are CSA certified; many are NOM certified. Not all products carry all certifications.

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.

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Lutron owns over 1,700 patents and manufactures more than 15,000 products. For over 45 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

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