PowPak™ | Installation

Dimming Module with EcoSystem®

Part of the Energi TriPak™ Family

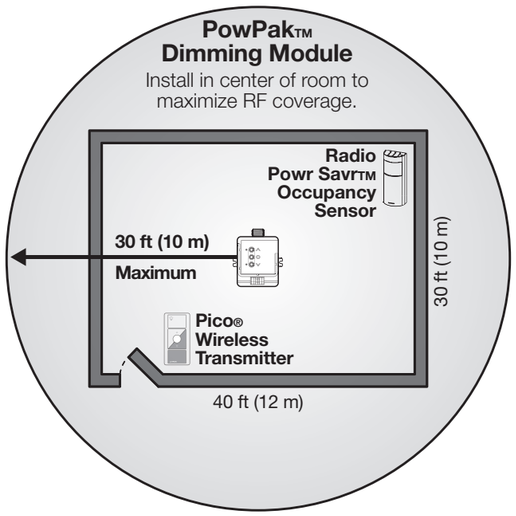
041-303 Rev. A 06/2011

RMJ-ECO32-DV-B
120/277 V~ 50/60 Hz 40 mA
EcoSystem®: 18 V⎓ 125 mA

Important Notes: *Please read before installing.*

- For installation by a qualified electrician in accordance with all local and national electrical codes.
- **Note:** Use copper conductors only.
- Check to see that the device type and rating is suitable for the application.
- **DO NOT** install if product has any visible damage.
- If moisture or condensation is evident, allow the product to dry completely before installation.
- Operate between 32 °F (0 °C) and 104 °F (40 °C).
- 0% to 90% humidity, non-condensing.
- For indoor use only.

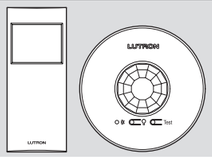
⚠ WARNING Shock Hazard. May result in serious injury or death.
Turn off power at circuit breaker before installing the unit.



All Wireless Transmitters must be installed within 30 ft (10 m) of the PowPak™ Dimming Module.

Default Functionality

Occupancy Sensors:

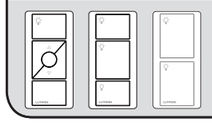


Occupied: All lights 100%.
Unoccupied: All lights off.

Daylight Sensors:

All lights dim in response to daylight.

Wireless Transmitters:



On: All lights 100%.
Preset: All lights 50%.
Off: All lights off.

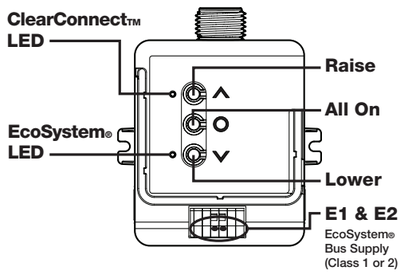
LUTRON® Lutron Electronics Co., Inc.
7200 Suter Road | Coopersburg PA, 18036-1299

Required Components

For each system ensure you have:

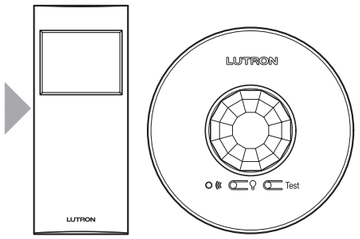
Need Help? www.lutron.com or call the Lutron Technical Support Center, 24/7 at 1.800.523.9466

One PowPak™ Dimming Module.

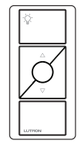


PowPak™ Dimming Module with EcoSystem® (1 maximum)

At least one Wireless Transmitter.



Radio Powr Savr™ Occupancy Sensor
(6 maximum)



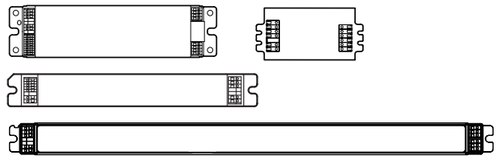
Pico® Wireless Transmitter
(9 maximum)

SVCP Code 33 or greater.
Code can be found on battery tray.

Radio Powr Savr™ Daylight Sensor
(1 maximum)

At least one EcoSystem® H-Series ballast, A-Series LED driver or Hi-lume® 3D digital ballast.

Please reference "Ballast Installation Best Practices Guide" P/N 041-170 at www.lutron.com



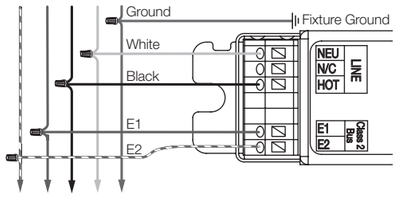
EcoSystem® H-Series, Hi-lume® 3D digital, or A-Series LED
(32 maximum. May be pre-installed in light fixtures)

Start Here (For programming see reverse)

1 Mount, wire and install EcoSystem® devices and lighting fixtures

Connect power wiring (hot, neutral, ground) to each fixture. Connect bus cable (E1 and E2) to each fixture.

Once complete, energize power to all fixtures, they should turn on to full brightness. If fixtures do not go to full brightness, check wiring and consult ballast installation guide.



Typical EcoSystem® ballast shown

To additional EcoSystem® ballasts or modules.

2 Install PowPak™ Dimming Module

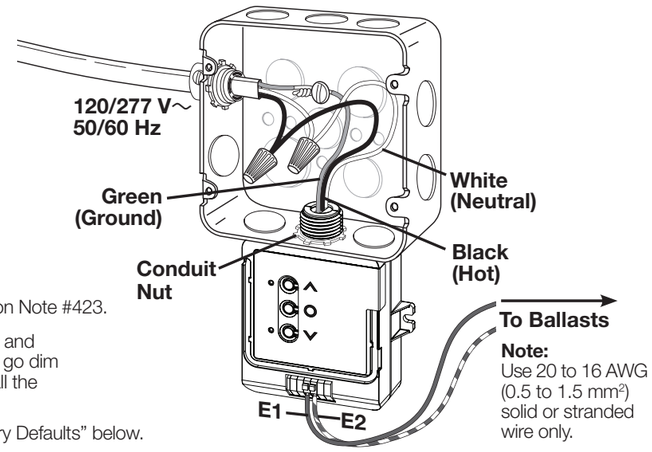
When installing a PowPak™ Dimming Module, use supplied conduit nut and wire the module as shown.

Suggested Installation Location:
Install in center of room.
This ensures proper RF coverage of area.

If installing unit inside a junction box please see Application Note #423.

Once installed, energize the PowPak™ Dimming Module and all fixtures. Fixtures will start at high-end and one by one go dim when given an address. Once addressing is complete, all the ballasts will return to high-end.

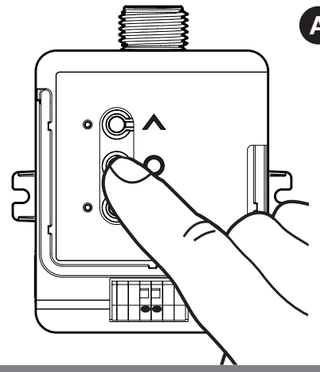
If ballasts are not properly addressing, see "Reset Factory Defaults" below.



Note: Use 20 to 16 AWG (0.5 to 1.5 mm²) solid or stranded wire only.

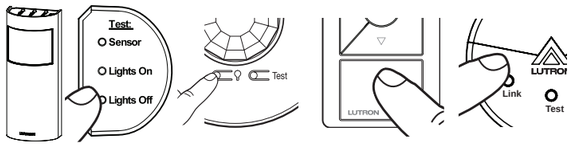
3 Associate Wireless Transmitters to PowPak™ Dimming Module

Before beginning this step, make sure that there are no other PowPak™ modules being set up within the same building. It is possible that wireless transmitters from other systems can be incorrectly associated to this system.



A **Hold All On "O" for 6 seconds on PowPak™ Dimming Module until ballasts flash.**

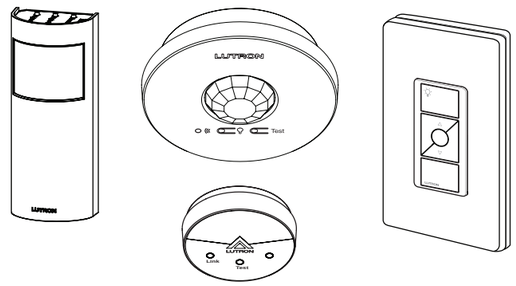
B **Hold the indicated button on each transmitter for 6 seconds. All ballasts will flash to show Wireless Transmitters have been associated.**



C **Hold All On "O" for 6 seconds on PowPak™ Dimming Module to save association.**

Default: All Wireless Transmitters control all EcoSystem® devices.

4 Permanently install Wireless Transmitters



Note: Please consult individual component installation guides for information.

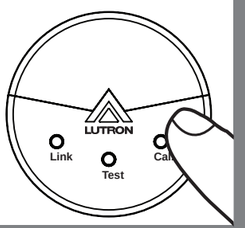
5 Daylight calibration

If only certain fixtures should be controlled by the Daylight Sensor, skip this step and see steps 7 and 11 on reverse.

A **Set lights in room to desired light level.**

B **Press & hold "Cal." for 6 seconds.**

C **Exit room for 5 minutes for calibration to complete.**



Troubleshooting www.lutron.com

Ballasts cannot be controlled locally from PowPak™ Dimming Module.	• Ensure the breaker(s) to the PowPak™ Dimming Module and ballasts are on. • Ensure the PowPak™ Dimming Module is wired to the ballast(s).
Fixtures do not respond to Wireless Transmitter(s).	• Ensure the breaker(s) to the PowPak™ Dimming Module and ballasts are on. • Ensure Wireless Transmitters are associated to the PowPak™ Dimming Module.
Wireless Transmitter(s) cannot be associated to PowPak™ Dimming Module.	• The maximum number of Wireless Transmitters have been associated to the PowPak™ Dimming Module. To remove a previously set up Wireless Transmitter, tap a Wireless Transmitter button three times, on the third tap hold for three seconds and then tap three more times.
PowPak™ ClearConnect™ (Top) LED is on solid and EcoSystem® (Bottom) LED is flashing.	• Daylight calibration has failed. Press any button on Pico® Wireless Transmitter or PowPak™ Dimming Module and restart calibration.

Reset Factory Defaults

Note: In some instances it may be necessary to reset the PowPak™ Dimming Module and connected EcoSystem® devices back to factory default settings.

A **Triple-tap any button on the PowPak™ Dimming Module and hold until the LEDs begin to flash slowly. (Release)**

B **Within 3 seconds of release, triple-tap the same button again and the LEDs will flash rapidly indicating that the unit has been reset to factory defaults.**

Note: Any associations or programming previously set up with the unit will be lost and will need to be re-programmed.

PowPak™ | Programming

Dimming Module with EcoSystem®

Part of the Energi TriPak™ Family

041-303 Rev. A 06/2011

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ALL PROGRAMMING IS OPTIONAL

Programming is not required for default functionality

- **Set a favorite light level.**
- **Device grouping.**
- **Set high-end trim for all fixtures.**
- **Set occupancy levels.**
- **Set minimum light level for all fixtures.**
- **Multiple-row daylighting.**

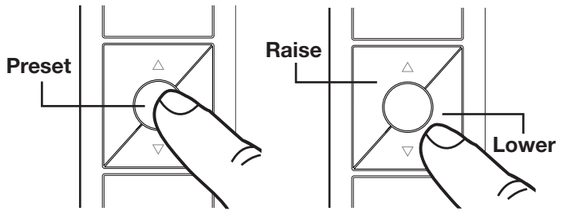
Please consult individual component installation and programming guides for more details.

6 Set a favorite light level (Optional)

For Pico® Wireless Transmitters with a Preset Button

A **Adjust lights to desired level:**
Use **"Raise/Lower"** on Pico® Wireless Transmitter.

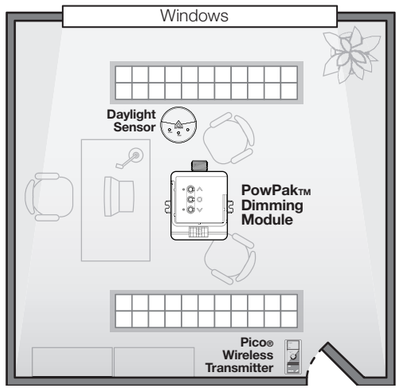
B **Save favorite level:**
Press and hold **"Preset"** for 6 seconds.



7 Device grouping (Optional)

Device grouping allows Pico® Wireless Transmitters and Radio Powr Savr™ Daylight Sensors to control a group of lights instead of all lights in the room.

Default:
All Wireless Transmitters control all light fixtures.

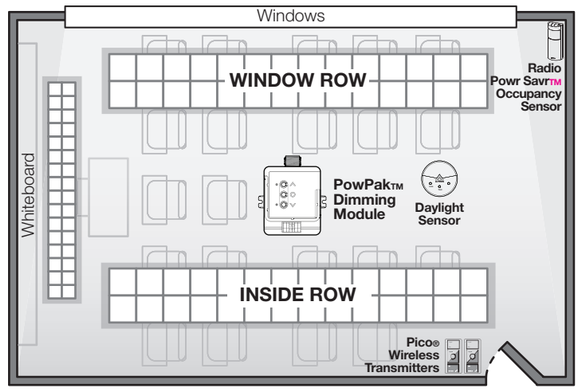


Private office or small room

Grouping NOT required.

In small rooms such as private offices, all lights should respond together and grouping is not required.

For more information:
www.lutron.com/powpakdimming



Large office or classroom

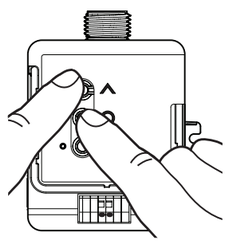
Grouping RECOMMENDED.

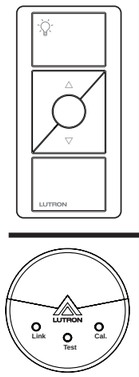
In large rooms such as conference rooms or classrooms, separate control of some fixtures, such as whiteboard lights or daylighting rows, is beneficial. Grouping is recommended.

For more information:
www.lutron.com/powpakdimming

A Enter Grouping

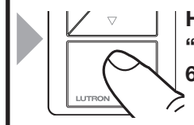
Press and hold All On "O" & Raise "^" for 6 seconds.



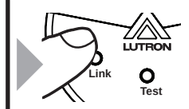


B Start Grouping

Hold "Lights Off" 6 Seconds



Hold "Link" 6 Seconds



First ballast will flash.

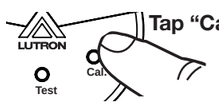
C Assign Fixtures

Repeat until all fixtures have been assigned / unassigned

Assign / Unassign

Tap "Lights On"

Tap "Cal."

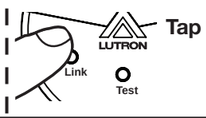


Assigned: Bright
Unassigned: Dim

Next Fixture

Tap " Lights Off"

Tap "Link"

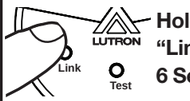


Selected ballast will flash.

D Save Grouping

Hold "Lights Off" 6 Seconds

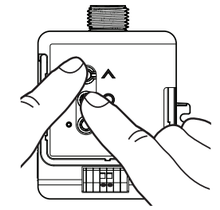
Hold "Link" 6 Seconds



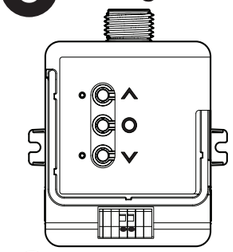
This will save current group.
Repeat B-D for other Wireless Transmitters.

E Exit Grouping

Press and hold All On "O" & Raise "^" for 6 seconds.



8 Set High-End trim for all fixtures (Optional)



Setting High-End Trim:

Lighting electricity usage can be reduced by 20% or more through high-end trim, which sets the maximum light level for each space.

For example, the human eye can barely distinguish between a 100% and an 80% light level—setting lights to 80% reduces energy use by about 20%.

A **Enter trim adjustment mode:**
Press & hold **Raise** "^" for 12 seconds.
Ballasts will flash high-low-high and top LED will be lit solid.

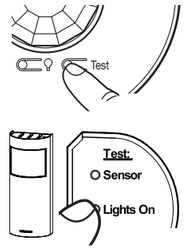
B **Adjust the high-end trim:**
Use **Raise** "^" and **Lower** "v" to adjust and set the lights to the desired high-end.

C **Save the high-end trim:**
Press & hold **All On** "O" for 6 seconds to save setting.
Top LED will turn off to indicate new level has been saved.

9 Set occupancy levels (Optional)

A **Set desired occupancy levels:**
Use raise/lower **"^/v"** on PowPak™ Dimming Module or raise/lower on Pico®, Transmitter(s).
Note: If certain lights should be unaffected by occupancy, turn lights off using Pico® Transmitter(s).

B **Save occupancy levels:**
Press and hold **"Test"** for 6 seconds on any associated Radio Powr Savr™ Occupancy Sensor **without** a "Lights On" button. Release when Sensor lens starts to flash. Or, press and hold **"Lights On"** for 6 seconds on any associated Radio Powr Savr™ Occupancy Sensor. Release when Sensor lens starts to flash.



10 Set minimum light level for all fixtures (Optional)

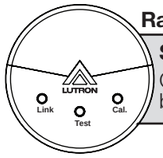
Certain applications such as hallways may require that the lights never turn off. For these areas, select the 10% low-end trim option.

A **Enter minimum light level adjustment mode:**
Press & hold **Lower** "v" for 12 seconds.
Ballasts will flash high-low-high and bottom LED will be lit solid.

B **Adjust the minimum light level:**
Press **Raise** "^" to set low-end trim to 10%.
Press **Lower** "v" to set low-end trim to off.

C **Save the minimum light level:**
Press & hold **All On** "O" for 6 seconds.
Bottom LED will turn off to indicate new level has been saved.

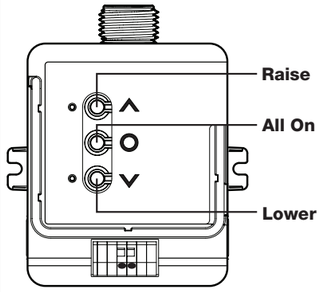
11 Multiple-row daylighting (Optional)



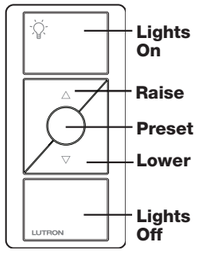
Radio Powr Savr™ Daylight Sensor

Sensor must be grouped (Step 7)
Group sensor with ballasts before beginning multiple-row daylighting.

PowPak™ Dimming Module



Pico® Wireless Transmitter



A Press and hold **All On "O"** and **Lower "v"** on the PowPak™ Dimming Module for 6 seconds. Fixtures not controlled by the Daylight Sensor will go to OFF, all others will go to low end. (First ballast will begin to flash.)

B Press **Raise "^"** on PowPak™ Dimming Module, or **"Lights On"** of any associated Pico® Transmitter to toggle the fixture from Window Row (low-end) to Inside Row (high-end), or vice versa.

C Press **Lower "v"** on PowPak™ Dimming Module, or **"Lights Off"** on any associated Pico® Transmitter to move to the next fixture. (Next fixture will flash.)

D Repeat steps **B** and **C** until all rows have been properly set up.

E Press and hold **All On "O"** on PowPak™ Dimming Module, or **"Preset"** on any associated Pico® Transmitter for 6 seconds. (Window Row will begin to flash.)

F Using the **Raise/Lower** buttons on the PowPak™ Dimming Module or an associated Pico® Transmitter set the current row to your desired light level.

G To move to the next row tap **All On "O"** on the PowPak™ Dimming Module or **"Lights Off"** on any associated Pico®.

H Repeat steps **F** and **G** both rows are properly set up.

I Press and hold **"Cal."** on the daylight sensor to calibrate room. See step 5 "Daylight calibration" on reverse.

FCC Information:

This device complies with part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired operation.

Modifications not expressly approved by Lutron Electronics Co., Inc. could void the user's authority to operate this equipment.

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

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

Limited Warranty

(Valid only in U.S.A., Canada, Puerto Rico, and the Caribbean.)
Lutron will, at its option, repair or replace any unit that is defective in materials or manufacture within one year after purchase. For waranty service, return unit to place of purchase or mail to Lutron at 7200 Suter Rd., Coopersburg, PA 18036-1299, postage pre-paid.

This warranty is in lieu of all other express warranties, and the implied warranty of merchantability is limited to one year from purchase. This warranty does not cover the cost of installation, removal or reinstallation, or damage resulting from misuse, abuse, or damage from improper wiring or installation. This warranty does not cover incidental or consequential damages.

LUTRON'S LIABILITY ON ANY CLAIM FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE MANUFACTURE, SALE, INSTALLATION, DELIVERY, OR USE OF THE UNIT SHALL NEVER EXCEED THE PURCHASE PRICE OF THE UNIT.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitation on how long an implied warranty may last, so the above limitations may not apply to you.

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