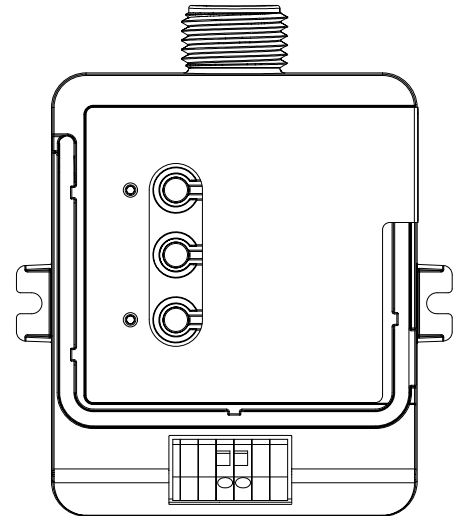369427g 1 07.18.13

PowPak® Dimming Module with EcoSystem®

The PowPak® Dimming Module with EcoSystem® is a radio frequency (RF) control that operates up to 32 EcoSystem® Ballast / LED drivers based on input from Pico® controls and Radio Powr Savr™ sensors. Configurable for multiple zones in a single area, the Dimming Module with EcoSystem® is ideal for small areas such as classrooms, conference rooms, and private offices.

Communication with RF input devices, such as Pico® controls and Radio Powr Savr™ sensors, is accomplished using Lutron® Clear Connect® RF Technology.

RMJ-ECO32-DV-B model shown

Features

- Controls up to 32 EcoSystem® fluorescent dimming ballasts and LED drivers
- Various operating voltages available – refer to model number chart below for details on voltage requirements
- Receives input from up to nine Pico® controls, six Radio Powr Savr™ occupancy/vacancy sensors, and one Radio Powr Savr™ daylight sensor
- Utilizes Lutron® Clear Connect® RF Technology – refer to model number chart below for frequency band data
- Mounts to a U.S. style junction box through a standard size knockout
- Complies with requirements for use in a compartment handling environmental air (plenum) per NEC® 2011 300.22(C)(3) (RMJ- and URMJ- models only)

Model Number	Region	Operating Voltage	Frequency Band
RMJ-ECO32-DV-B	U.S.A., Canada, Mexico	120 / 277 V∼	431.0 – 437.0 MHz
URMJ-ECO32-DVB	U.S.A. (BAA Compliant)	120 / 277 V∼	431.0 – 437.0 MHz
RMQ-ECO32-DV-B	Hong Kong	220 – 240 V∼	433.05 – 434.79 MHz
RMM-ECO32-DV-B	China and Singapore	220 – 240 V∼	868.125 – 868.475 MHz
RMK-ECO32-DV-B	Europe, U.A.E.	220 – 240 V∼	868.125 – 868.850 MHz
RMN-ECO32-DV-B	India	220 – 240 V∼	865.5 – 866.5 MHz
RMP-ECO32-JA-B	Japan	100 V∼	313.3 – 314.8 MHz
RMP-ECO32-200-JA	Japan	200 V∼	313.3 – 314.8 MHz

NOTE: Contact Lutron for frequency band compatibility for your geographic region if it is not indicated above.

Job Name:	Model Numbers:	
Job Number:		

Specifications

Regulatory Approvals

RMJ- & URMJ- models only

- UL Listed (U.S.A.)
- UL 2043 Plenum Rated (U.S.A.)
- FCC approved. Complies with the limits for a Class B device, pursuant to Part 15 of the FCC rules. (U.S.A.)
- CSA and IC (Canada) (RMJ Only)
- COFETEL (Mexico) (RMJ Only)
- NOM (Mexico) (RMJ Only)

RMN- Model

- WPC Type Approved (India)

RMK- Model

- CE (European Union)
- TRA Type Approved (United Arab Emirates)

Power

- Operating voltage:
  RMJ/URMJ- models 120/277 V∼ 50/60 Hz 40 mA
  RMQ-, RMM-, RMK-, RMN- models
  220-240 V∼ 50/60 Hz 40 mA
  RMP- models 100 V∼ 50/60 Hz 40 mA
- Typical system power consumption (12 ballasts): 2.0 W
- Full system power consumption (32 ballasts): 2.75 W

System Communication

- Operates using Clear Connect® RF Technology for reliable wireless communication; refer to model number chart on page 1 for frequency band details
- RF range is 30 ft (9 m) for RMJ-, URMJ-, RMQ-, RMM-, RMK-, RMN- models
- RF range is 23 ft (7 m) for RMP- models
- Contact Lutron first for applications using foil-backed or metallic ceiling tiles.

Default Operation

- Associated wireless input devices control all connected EcoSystem® LED drivers
- Occupancy Sensors:
  – Occupied: 100%; Unoccupied: 0% (OFF)
- Pico® Controls:
  – On: 100%; Favorite Level: 50%; Off: 0% (OFF)
- Daylight Sensor: Decreases electric light in response to additional available daylight

Environment

- Ambient operating temperature: 32 to 104 °F (0 to 40 °C)
- 0 to 90% humidity, non-condensing
- For indoor use only

EcoSystem® Link

- 18 V⎓ 125 mA
- Communicates with up to 32 EcoSystem® dimming ballasts, LED drivers and interfaces such as CJ-BMJ-16A (U.S.A. only)
- EcoSystem® Digital Link can be wired Class 1 or Class 2 for maximum wiring flexibility (RMJ-, URMJ-, RMM-, RMN-, RMQ- models)
- EcoSystem® Digital Link carries basic isolation from line voltage wires (RMK- model)
- Terminals accept 18 to 16 AWG (0.75 to 1.5 mm^2) solid wire
  NOTE: Must use Rapid Start sockets with EcoSystem® ballasts.
  NOTE: The PowPak® Dimming Module with EcoSystem® does NOT support the C5-XPJ-16A switching module.
  NOTE: Wired sensors connected to EcoSystem® devices are NOT supported.
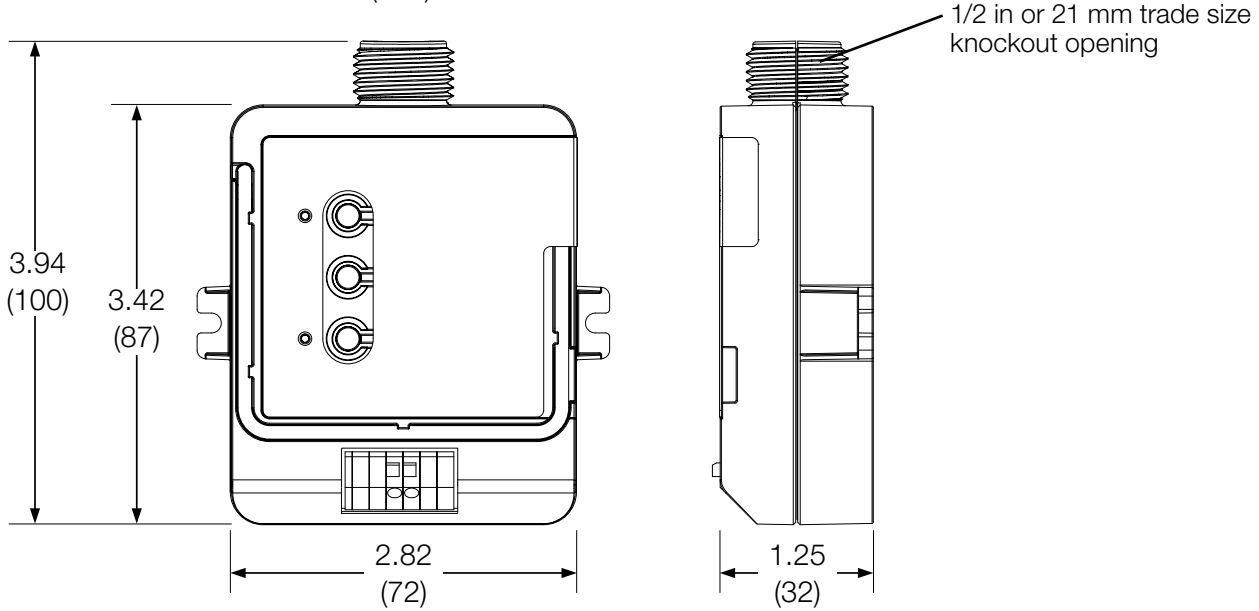
Key Design Features

- LED status indicators show communication status and provide programming feedback
- Power failure memory: If power is interrupted, connected loads will return to the previous level prior to interruption
- EcoSystem® link miswire protection up to 347 V∼
- Daylight override: Pressing the raise button on an associated Pico® control will temporarily override daylighting for the fixtures in that Pico® group
  – Daylighting will be re-enabled for that Pico® group when one of the following occurs:
    - Two hours have passed since the override.*
    - ON, OFF or Preset button has been pressed on a Pico® control controlling that group.
    - All associated Occupancy Sensors have reported unoccupied.
    * Each time a daylighting override occurs for any Pico® group, the two hour timer is reset.

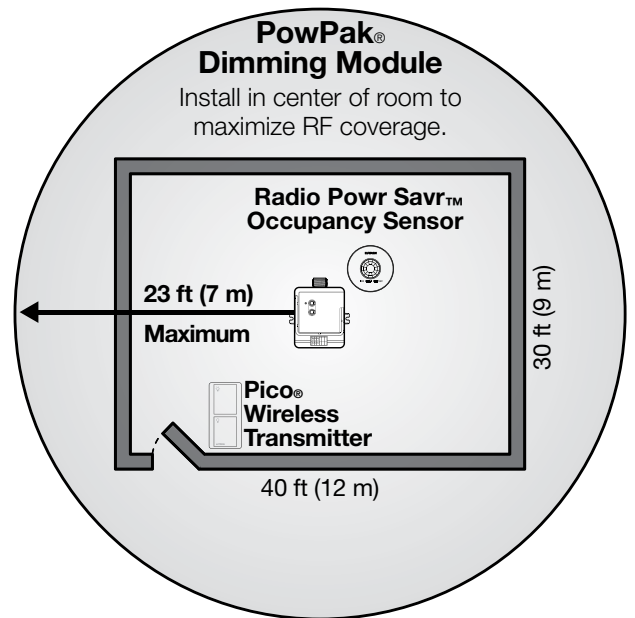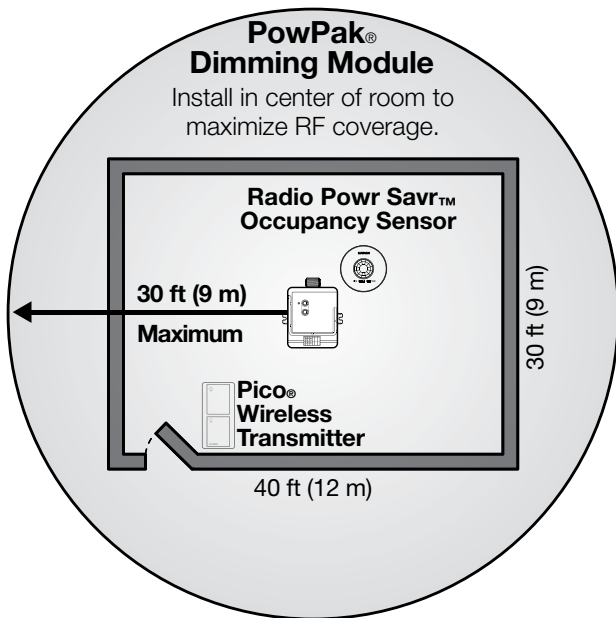| Job Name:	Model Numbers:	
Job Number:		

Dimensions

Dimensions are shown as: in (mm)

1/2 in or 21 mm trade size
knockout opening

3.94
(100)

3.42
(87)

2.82
(72)

1.25
(32)

Range Diagrams

RMJ-, URMJ-, RMQ-, RMM-, RMK-, RMN- models

RMP- models

**PowPak®
Dimming Module**
Install in center of room to
maximize RF coverage.

**Radio Powr Savr™
Occupancy Sensor**

30 ft (9 m)

Maximum

30 ft (9 m)

**Pico®
Wireless
Transmitter**

40 ft (12 m)

**PowPak®
Dimming Module**
Install in center of room to
maximize RF coverage.

**Radio Powr Savr™
Occupancy Sensor**

23 ft (7 m)

Maximum

30 ft (9 m)

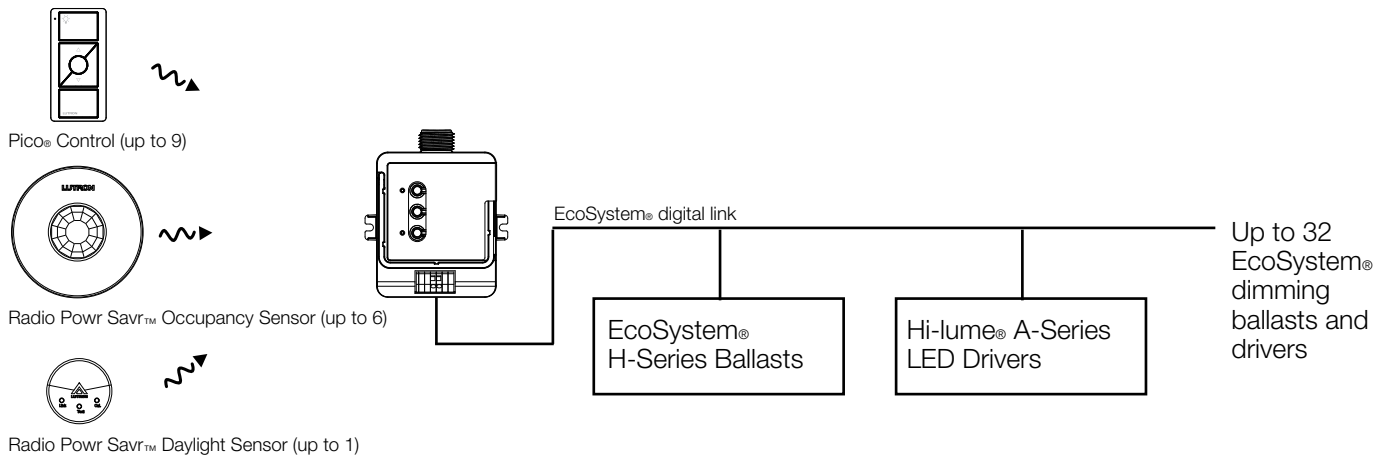**Pico®
Wireless
Transmitter**

40 ft (12 m)

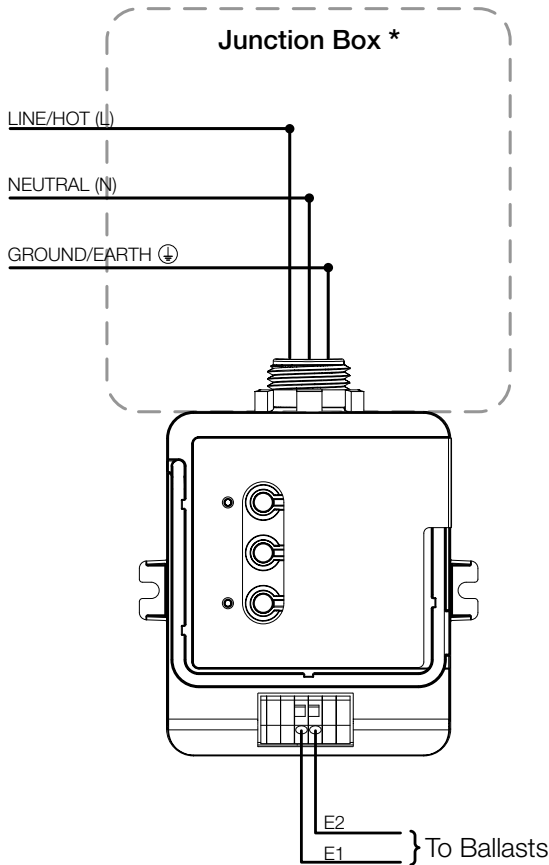**All Wireless Transmitters must be installed within
30 ft (9 m) of the PowPak™ Relay Module.**

**All Wireless Transmitters must be installed within
23 ft (7 m) of the PowPak™ Relay Module.**

Job Name:	Model Numbers:	
Job Number:		

System Diagram (RMJ-, URMJ-, RMQ-, RMM-, RMN- models)

Pico® Control (up to 9)

Radio Powr Savr™ Occupancy Sensor (up to 6)

Radio Powr Savr™ Daylight Sensor (up to 1)

EcoSystem® digital link

EcoSystem®
H-Series Ballasts

Hi-lume® A-Series
LED Drivers

Up to 32
EcoSystem®
dimming
ballasts and
drivers

Wiring Diagram (RMJ-, URMJ-, RMQ-, RMM-, RMN- models)

Junction Box *

LINE/HOT (L)

NEUTRAL (N)

GROUND/EARTH ⏚

E2
E1 } To Ballasts

* NOTE: Some applications (in USA) require the
PowPak® module to be installed inside an additional
junction box. For information about how to perform
this installation, please visit www.lutron.com,
Application Note #423 (P/N 048423). Please consult
all local and national electronic codes for proper
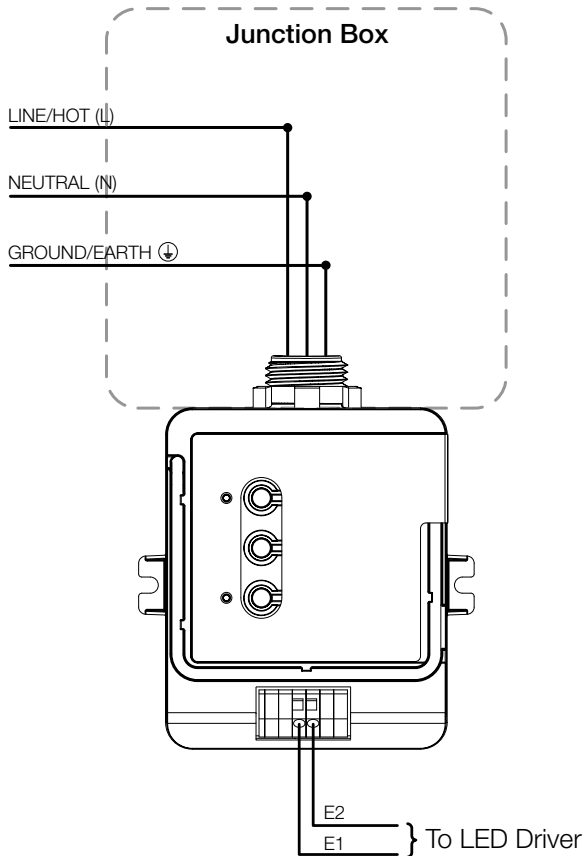installation methods.

Job Name:	Model Numbers:	
Job Number:		

System Diagram (RMP- models)

Pico® Control (up to 9)

Radio Powr Savr™ Occupancy Sensor (up to 6)

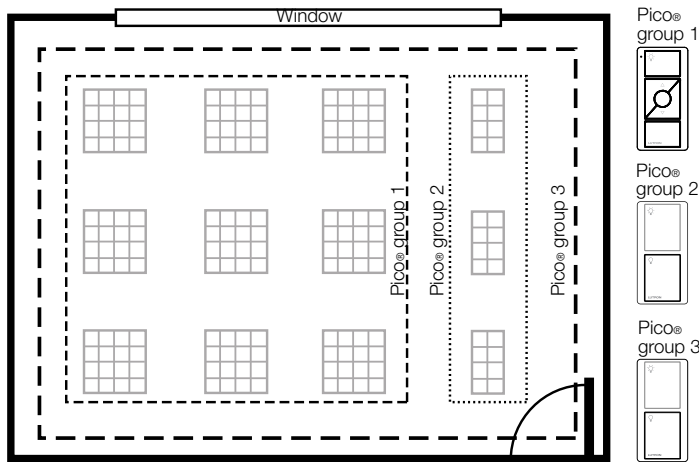Radio Powr Savr™ Daylight Sensor (up to 1)

EcoSystem® digital link

Lutron® LED Drivers

Lutron® LED Drivers

Up to 32 EcoSystem® LED drivers
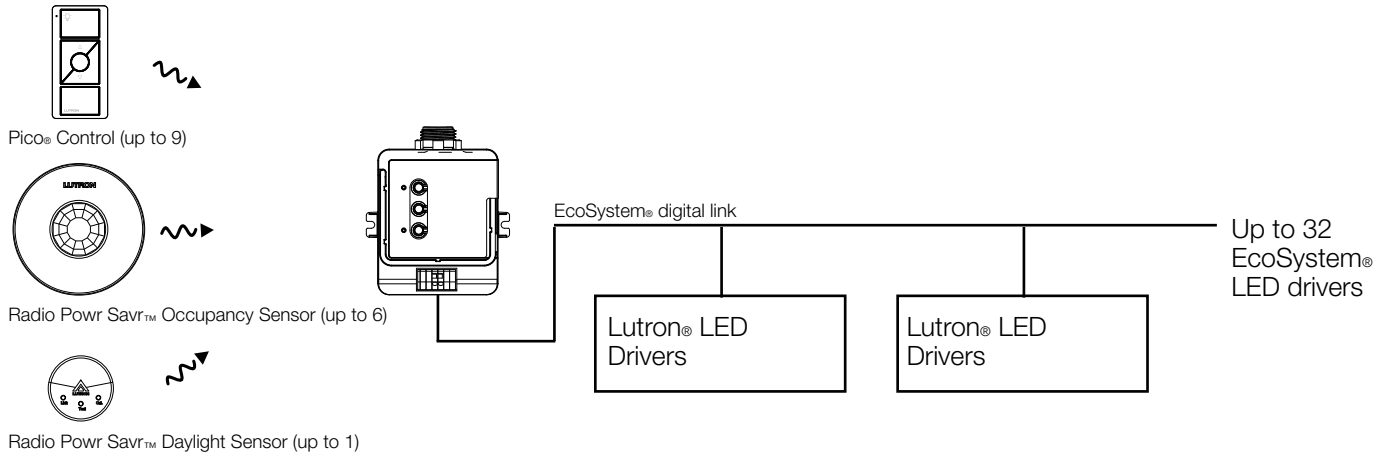
Wiring Diagram (RMP- models)

100 V∼

Junction Box

LINE/HOT (L)

NEUTRAL (N)

GROUND/EARTH ⏚

E2
E1 } To LED Driver

200 V∼

Junction Box

From 2-pole circuit breaker

LINE 1 (L1)

LINE 2 (L2)

GROUND/EARTH ⏚

E2
E1 } To LED Driver
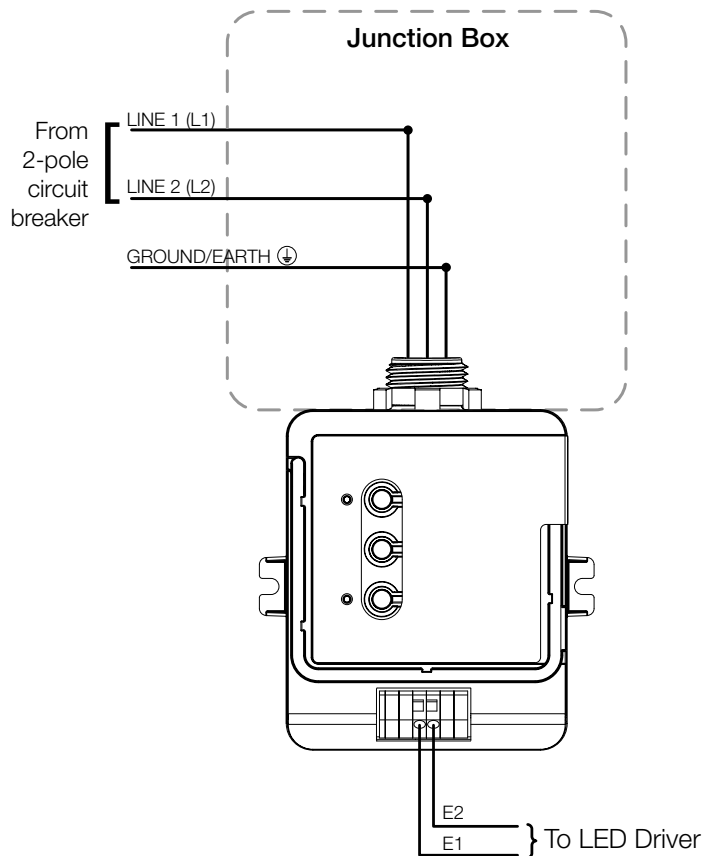
Job Name:	Model Numbers:	
Job Number:		

System Diagram (RMK- model)

Pico® Control (up to 9)

Radio Powr Savr™ Occupancy Sensor (up to 6)

Radio Powr Savr™ Daylight Sensor (up to 1)

EcoSystem® digital link

Lutron® EcoSystem® H-Series Ballasts

Lutron® EcoSystem® LED Drivers

Up to 32 EcoSystem® LED drivers
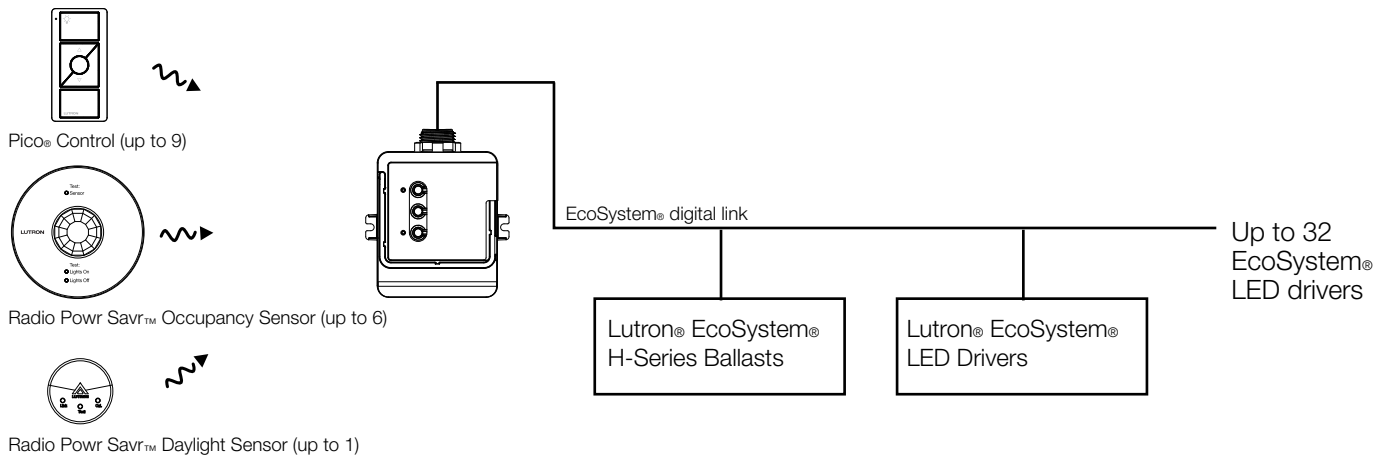
Wiring Diagram (RMK- model)
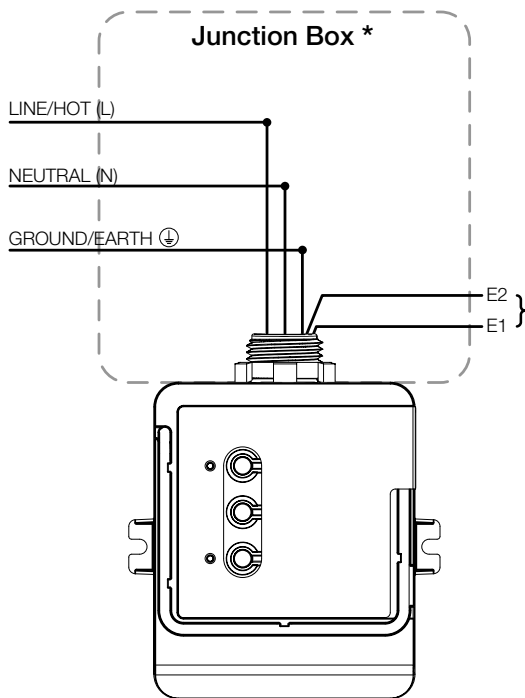
Junction Box *

LINE/HOT (L)

NEUTRAL (N)

GROUND/EARTH ⏚

E2
E1

* **NOTE:** Some applications (in USA) require the PowPak® module to be installed inside an additional junction box. For information about how to perform this installation, please visit www.lutron.com, Application Note #423 (P/N 048423). Please consult all local and national electric codes for proper installation methods.

| Job Name:	Model Numbers:	
Job Number:		

Advanced Configurations

Pico® Wireless Controls

- Up to nine Pico® controls, each with their own control group
- Each group can include any of the connected drivers
- Favorite levels can be set for each Pico® wireless control

Radio Powr Savr™ Daylight Sensor

- Up to two daylighting rows can be configured
- The Radio Powr Savr™ daylight sensor group can include up to 32 drivers

Minimum Light Level Setting (optional)
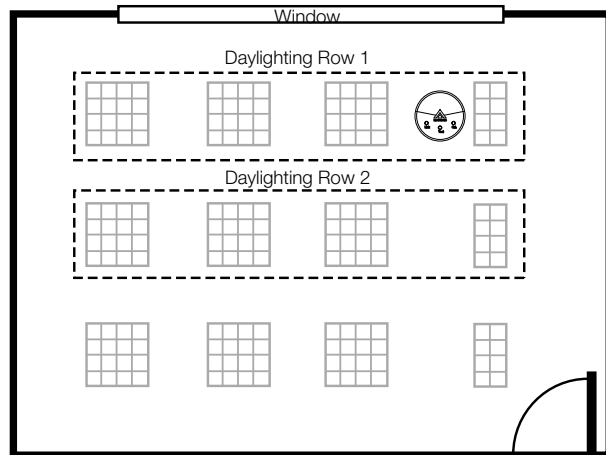
- Certain applications, such as hallways, may require that the lights never turn off. For these areas, select the 10% minimum light level option.

High-End Trim

- The maximum light output of connected drivers can be decreased by up to 50% for energy savings in over-lit spaces
- High-End Trim affects all connected drivers equally, and can be configured from the dimming module or from any associated Pico® control
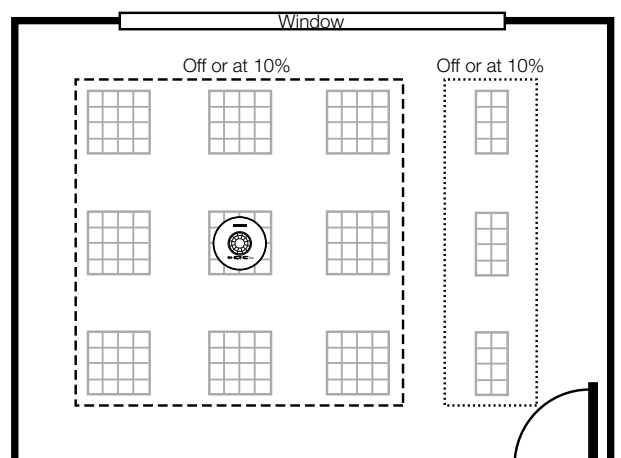
Radio Powr Savr™ Occupancy Sensors

- Radio Powr Savr™ occupancy and vacancy sensors control all connected drivers
- Grouped Pico® controls can be used to adjust the Occupied levels of drivers that they control from 1 to 100% or can make them unaffected by Occupancy events
- Vacancy events (area becomes unoccupied) turn all drivers off or to 10%, if minimum light level is set

Occupied
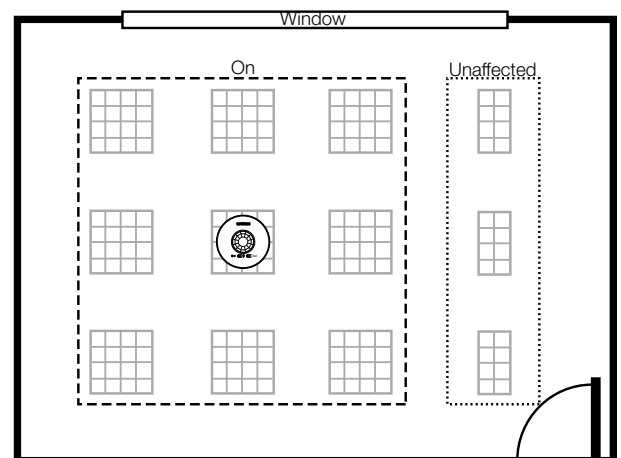
Unoccupied

Job Name:	Model Numbers:	
Job Number:		