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Vive PowPak Dimming Module with 0–10 V⎓ Control

The PowPak Dimming Module with 0–10 V⎓ Control is a radio frequency (RF) control that operates 0–10 V⎓ controlled fluorescent ballasts or LED drivers based on input from Pico remote controls and Radio Powr Savr sensors. The Dimming Module with 0–10 V⎓ Control is ideal for small areas (e.g., classrooms, conference rooms, private offices).

Communication with RF input devices (e.g., Pico remote controls, Radio Powr Savr sensors) is accomplished by using Lutron Clear Connect RF Technology.

These products are also compatible with the Vive hub which enables a simple setup process using a standard web browser on any Wi-Fi enabled phone, tablet or computer. It also enables control and monitoring of all Vive devices. The Vive hub can be added at any time. System reprogramming will be required. For a complete list of features supported with the Vive hub, see specification submittal 369902 at www.lutron.com

Note for Replacement: RMJ<u>S</u>/URMJ<u>S</u> - the "S" model can replace the non-"S" model.

RMJS-8T-DV-B (shown)

Features

- Controls up to 60 mA of 0–10 V⎓ controlled fixtures together
- Model (RMJS-8T-DV-B-EM) available for use with emergency lighting. See page 4 for operating details.[1]
- Switches up to 8 A total
- 0–10 V⎓ control link automatically sources or sinks to the third party fixtures
- Configurable high- and low-end trim
- Various operating voltages available; refer to model number chart on the next page for details on voltage requirements
- Receives wireless inputs from up to 10 Pico remote controls, 10 Radio Powr Savr occupancy/vacancy sensors, and 1 Radio Powr Savr daylight sensor
- Utilizes Lutron Clear Connect RF Technology; refer to model number chart on the next page for frequency band data
- Mounts to the exterior of a US-style junction box through a standard-size knockout

[1] See App Note #628 (P/N 048628) on www.lutron.com for emergency lighting applications.

⁂**LUTRON** SPECIFICATION SUBMITTAL   Page

Job Name:	Model Numbers:
Job Number:	

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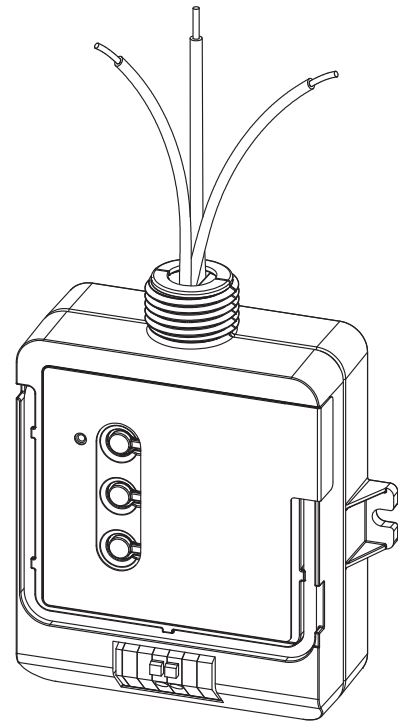
Models

Model Number	Region	Operating Voltage	Frequency Band
RMJS-8T-DV-B	U.S.A., Canada, Mexico	120/277 V∼	431.0–437.0 MHz
	Israel, Hong Kong	220–240 V∼	433.05–434.79 MHz
URMJS-8T-DV-B	U.S.A. (BAA Compliant)	120/277 V∼	431.0–437.0 MHz
RMJS-8TN-DV-B	U.S.A., Canada, Mexico	120/277 V∼	431.0–437.0 MHz
	Israel, Hong Kong	220–240 V∼	433.05–434.79 MHz
RMJS-8T-DV-B-EM	U.S.A., Canada, Mexico	120/277 V∼	431.0–437.0 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
- UL® Listed
- UL 924 Listed (RMJS-8T-DV-B-EM only)
- FCC approved. Complies with the limits for a Class B device, pursuant to Part 15 of the FCC rules
- Complies with requirements for use in other spaces used for environmental air (plenums) per NEC® 2014 300.22(C)(3)
- Classified in accordance with CAN/ULC-S142 as discrete product certified for installation in an air-handling space.
- cUL and IC (Canada) (RMJS- only)
- COFETEL (Mexico) (RMJS- only)
- NOM (Mexico) (RMJS- only)

Power
- Operating voltage
  120/277 V∼ 50/60 Hz

Output Ratings
- Switch rating of 8 A. Rated for resistive or capacitive loads as defined by IEC/EN 60669-2-1
- 0–10 V⎓ control link for 60 mA maximum output, source or sink automatically configures

Other Power Specifications
- Standby power:
  – 240–277 V∼ 610 mW
  – 120 V∼ 550 mW
- BTU/hour when fully loaded: 9
- Works with all ballasts and drivers that provide a current source that is compliant to IEC 60629 Annex E.2, and whose inrush current does not exceed NEMA410 standards for electronic ballast/driver

Mounting
- This device can be installed on a junction box or marshalling box using the conduit nut or with mounting screws. The device must NOT be mounted inside a metallic enclosure – only on the exterior of a junction box, or marshalling box. Improper installation can result in degraded wireless communications and intermittent or sustained communications failures and will not be covered under warranty. For applications (in U.S.A.) where code requires the PowPak control to be installed inside an additional junction box, please see Lutron Application Note #423 (P/N 048423) at www.lutron.com for how to perform this installation. For all other installations, refer to the installation instructions and consult local and national electric codes for proper installation. The PowPak control needs to be accessible for some programming steps. Record where it is mounted of that it can be easily located later.

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)
- Wireless sensors and controls must be located within 60 ft (18 m) line of sight, or 30 ft (9 m), through walls, of the associated control module. The 60 ft (18 m) range is not reduced by a ceiling tile obstruction.

Environment
- Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C)
- 0% to 90% humidity, non-condensing
- For indoor use only
- All drivers and ballasts used with Vive wireless controls must comply with the limits for a Class A device pursuant to Part 15 of the FCC Rules

Job Name:	Model Numbers:
Job Number:	

Specifications *(continued)*

0–10 V⎓ Control Link
- Communicates with up to 60 mA of fixtures
- Control link is IEC SELV / NEC® Class 2
- 0–10 V⎓ control can be installed using NEC® Class 1 or Class 2 wiring methods. Alternately, it can be wired to basic or double-insulated devices
- Always consult local wiring codes
- Compatible with ANSI E1.3 2001 (R2006), IEC 60929 Annex E

Emergency Model Sequence of Operation
With a Vive hub:
- **Normal mode:** The RMJS-8T-DV-B-EM can dim loads as normal and respond to local button presses, Pico wireless controls, and occupancy / daylight sensors.
- **Emergency mode:** Emergency override mode can be entered on the emergency PowPak either by receiving an override signal* from the Vive hub or by temporarily losing power**. When in emergency override mode the PowPak will go to full output / relay closed. It will not respond to any local button presses, Pico wireless controls, occupancy sensors, daylight sensors, timeclock events, or preset scene calls. The emergency light level of the emergency PowPak can be configured using the Vive hub.
- **Return from emergency mode to normal mode:** When normal power is restored to the Vive hub or the override signal* from the Vive hub is cleared, and power is restored to the emergency PowPak, the emergency PowPak will return to the previous light level in most cases within 3 minutes, but guaranteed within 10 minutes of normal power being restored. It will again respond to local button presses, Pico wireless controls, occupancy sensors, daylight sensors, timeclock events, and preset scene calls.

Note: See App Note #628 (P/N 048628) on www.lutron.com for emergency lighting applications.

* Override signal triggered from the contact closure #2 on the Vive hub from one of the following inputs:
  – Fire alarm control panel
  – Security system
  – LUT-ELI-3PH
  For more information on the functionality of contact closure #2 on the Vive hub, see the Vive hub spec sheet (P/N 369902).

** Power must be interrupted for more than 3 seconds at 120 V∿, or more than 6 seconds at higher operating voltages, to activate emergency mode.

Without a Vive hub:
- **Normal mode:** The RMJS-8T-DV-B-EM can dim loads as normal and respond to local button presses, Pico wireless controls, and occupancy / daylight sensors.
- **Emergency mode:** If the emergency PowPak loses power**, it will automatically go into emergency mode (full output, relay closed) for 90 minutes, when emergency power is restored to the PowPak. The RMJS-8T-DV-B-EM will not respond to all local button presses, Pico wireless controls, occupancy and daylight sensors for 90 minutes.
- **Return from emergency mode to normal mode:** When normal power is restored, the emergency PowPak will remain in emergency mode for 90 minutes (full output, relay closed). It will then return to the previous light level and accept local button control, inputs from Pico wireless controls, and occupancy / daylight sensors.

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

Key Design Features
- LED status indicator shows load status and provides programming feedback
- Configurable high-end and low-end trim
- Power failure memory: If power is interrupted, connected loads will return to the previous level prior to interruption
- 0–10 V⎓ control mis-wire protection up to 30 V⎓

Warranty
- 1 year limited warranty. The customer can register the product to increase the warranty period from 1 year to 5 years. Please visit www.lutron.com/TechnicalDocumentLibrary/369-119_Wallbox_Warranty.pdf for warranty details.

Job Name:	Model Numbers:
Job Number:	

Advanced Configurations

Pico Remote Controls
- Up to 10 Pico remote controls
- Favorite levels can be set for each Pico remote control

Radio Powr Savr Daylight Sensor
- The Radio Powr Savr daylight sensor will affect all connected ballast and LED drivers equally
- For multple rows of daylighting, a separate PowPak Dimming Module with 0–10 V$\overline{}$ must be used for each daylighting row

Minimum Light Level Setting (optional)
- Certain applications, such as hallways, may require that the lights never turn off. For these areas, select the minimum light level option and the load will lower to programed low-end level. Default operation lowers to OFF.

High- and Low-End Trim
- High-end and low-end trim affect all connected fixtures equally, and can be configured from the PowPak Dimming Module.
- Adjustable low-end trim (0%–45%). Trimmable low-end can ensure a stable light level. Some fixtures will flicker or drop out if trimmed too low.
- The maximum light output of connected fixtures can be decreased down to 55% for energy savings in over-lit spaces.
  Note: The perceived light output of low-end trim may vary between fixture manufacturers and model numbers. For best results, do not mix different ballasts or drivers on the same 0–10 V$\overline{}$ circuit.
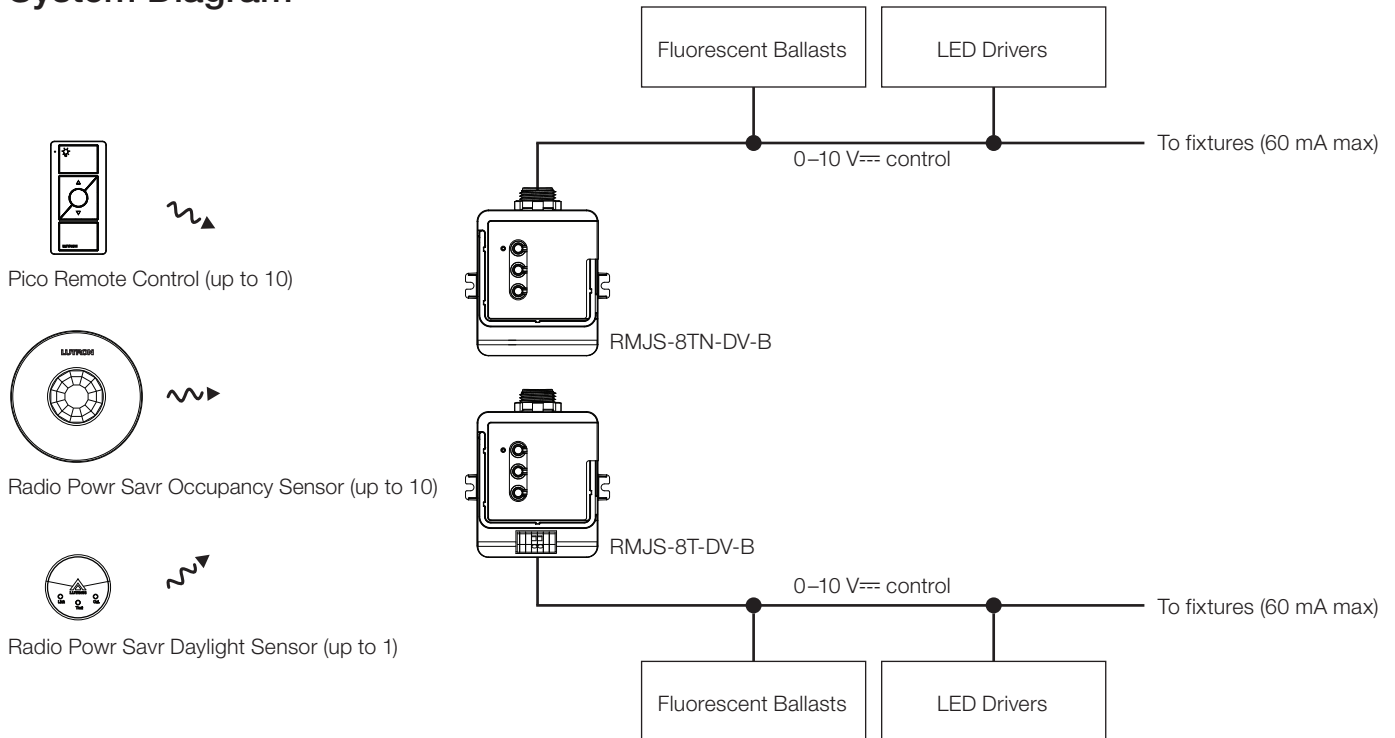
Radio Powr Savr Occupancy Sensors
- Radio Powr Savr occupancy and vacancy sensors control all connected ballasts or drivers.
- Pico remote controls can be used to adjust the Occupied levels of fixtures that they control from 1% to 100% (of output signal) or can make them unaffected by Occupancy events.
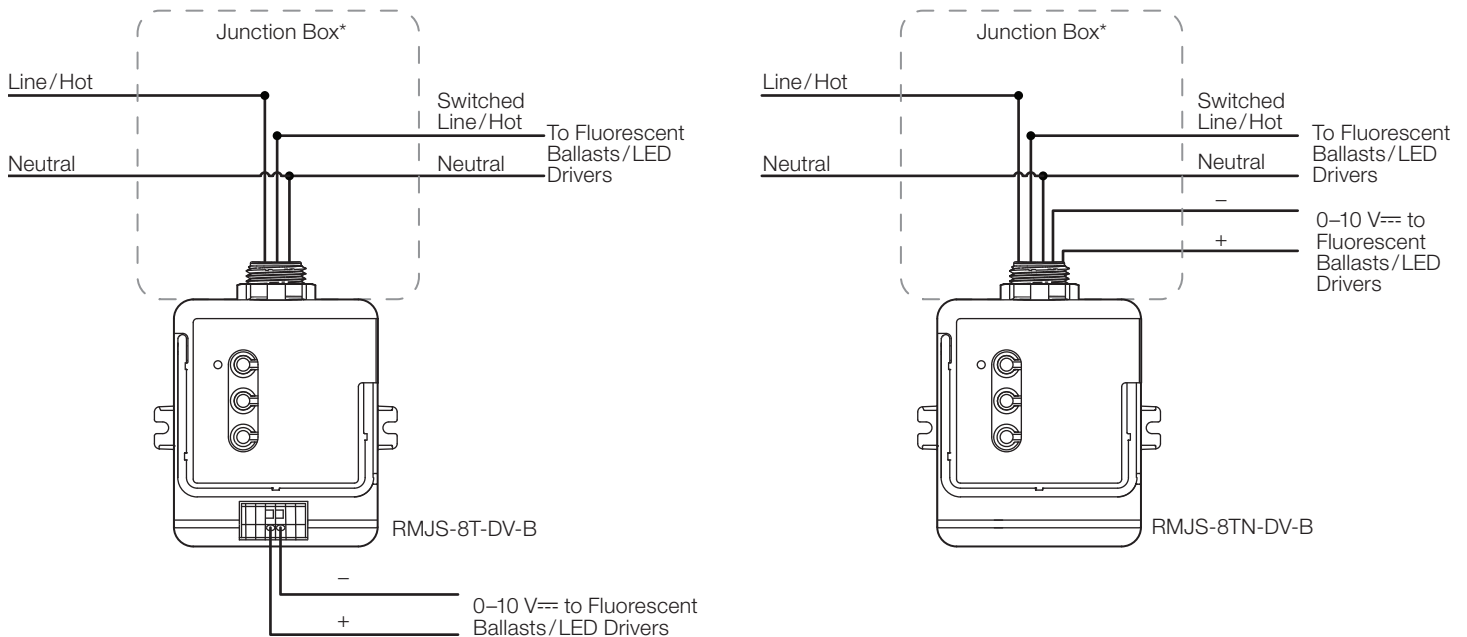- Vacancy events (area becomes unoccupied) turn all ballasts and driver models off or to minimum light level.

System Diagram

Fluorescent Ballasts   LED Drivers

To fixtures (60 mA max)

0–10 V⎓ control

RMJS-8TN-DV-B

RMJS-8T-DV-B

0–10 V⎓ control

To fixtures (60 mA max)

Fluorescent Ballasts   LED Drivers

Pico Remote Control (up to 10)

Radio Powr Savr Occupancy Sensor (up to 10)

Radio Powr Savr Daylight Sensor (up to 1)

Wiring Schematic

Junction Box*

Line/Hot

Switched Line/Hot

To Fluorescent Ballasts/LED Drivers

Neutral

Neutral

RMJS-8T-DV-B

−

+

0–10 V⎓ to Fluorescent Ballasts/LED Drivers

Junction Box*

Line/Hot

Switched Line/Hot

To Fluorescent Ballasts/LED Drivers

Neutral

Neutral

−

+

0–10 V⎓ to Fluorescent Ballasts/LED Drivers

RMJS-8TN-DV-B

* **NOTE:** The control module mounts to the exterior of a U.S.-style junction box.

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
(100.1)

3.42
(86.9)

2.82
(71.6)

1.25
(31.8)

Range Diagram

**PowPak
Dimming Module**

Install in center of room
to maximize RF coverage.

Radio Powr Savr
Occupancy
Sensor

30 ft (9 m)
maximum

PowPak
Dimming
Module

30 ft (9 m)

Pico
Remote
Control
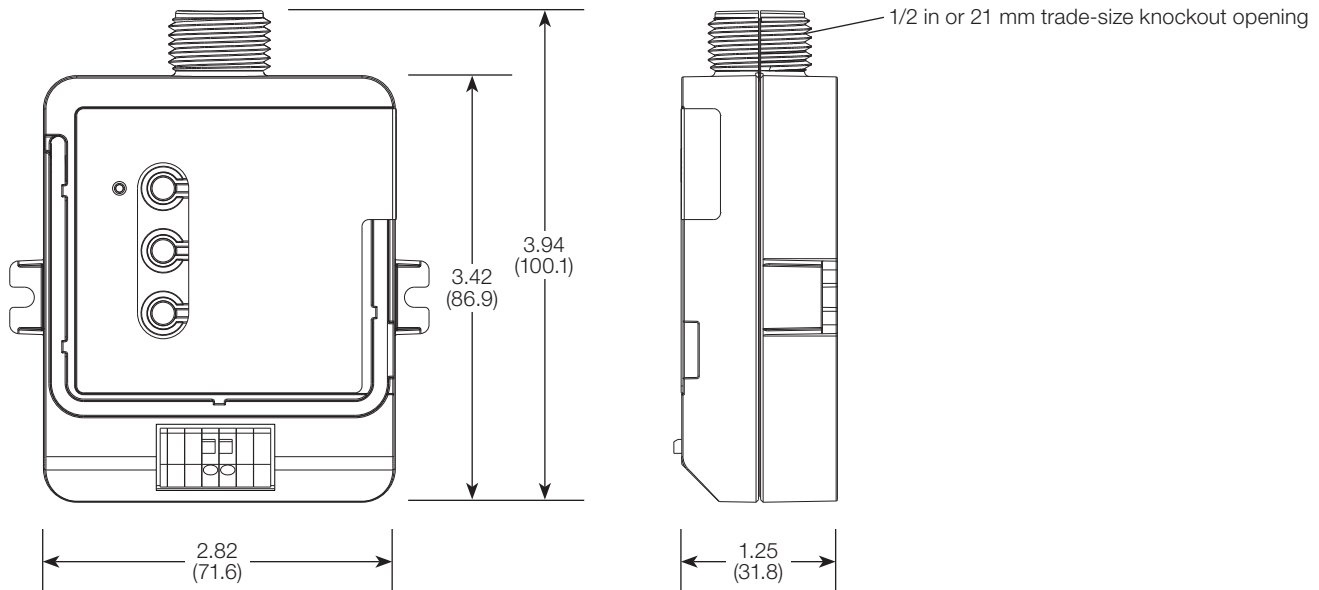
40 ft (12 m)
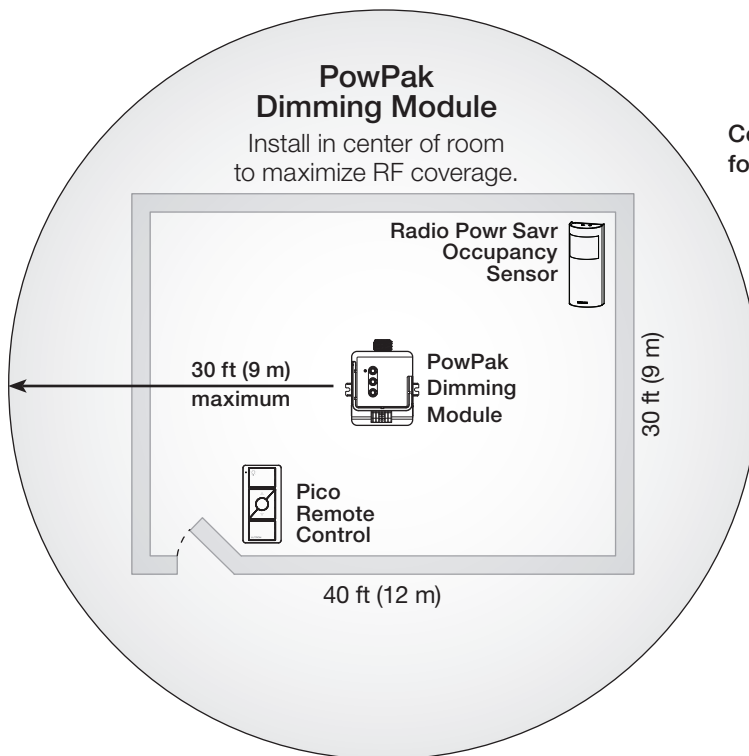
**Contact Lutron first for applications using
foil-backed or metallic ceiling tiles.**

NOTE: Wireless sensors and controls must be located within
60 ft (18 m) line of sight, or 30 ft (9 m), through walls, of the
associated control module. The 60 ft (18 m) range is not
reduced by a ceiling tile obstruction.

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Job Name:	Model Numbers:
Job Number:	