

PowPak Single Zone Control Module with DALI

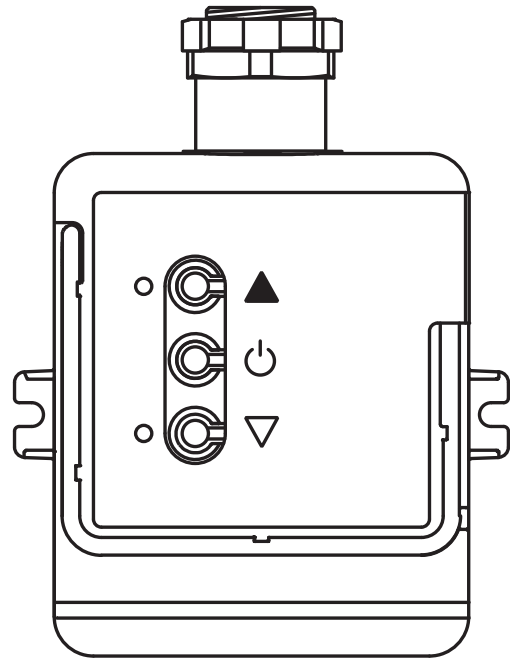
The PowPak Single Zone Control Module with DALI® is a radio frequency (RF) control that operates 1–4 or 1–32* DALI® LED drivers or fluorescent ballasts based on input from Pico remote controls and Radio Powr Savr sensors. The control module is ideal for small areas (e.g., classrooms, conference rooms, 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 the free Lutron Vive app (available for download from the App Store or Google Play® online marketplace) or by using web-based software with any Wi-Fi® enabled iOS® or Android® compatible device. 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 3691044 at www.lutron.com

Features

- Controls 1–4 or 1–32 DALI® fixtures in a single zone (see **Models** see below).
- Configurable high- and low-end trim.
- 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 below for frequency band data.
- Mounts through a 20 mm knockout.



DALI® Compatibility

The Lutron PowPak Single Zone Control Module with DALI® is DALI-2® certified by the Digital Illumination Interface Alliance (DiiA)®. In order to ensure compatibility with Lutron DALI® controllers, the connected DALI® LED drivers and fluorescent ballasts must be DALI-2® certified and marked. In addition to compatibility, it is important to select high-quality and high-performance LED drivers and fluorescent ballasts. DALI-2® certified devices are readily available from many manufacturers and are tested for compatibility with the standard. For a complete list of available DALI-2® certified devices, see the DiiA® website at <https://www.digitalilluminationinterface.org/products>. DALI® devices that are not listed on the DiiA® website and are not marked DALI-2® cannot be considered DALI-2® certified.

The DALI® version-1 standard does not ensure compatibility. To apply the original DALI® version-1 mark on LED drivers and fluorescent ballasts, no verification of the test results was required, and manufacturers could self-declare compliance and apply the DALI® mark. If you would like to use an LED driver or fluorescent ballast that is not DALI-2® certified but carries a DALI® version-1 logo, Lutron recommends that these devices be tested to ensure compatibility. Lutron is able to perform this testing on request. Samples of the drivers and light engines must be submitted to Lutron and the expected turnaround time is 6 to 8 weeks after the drivers are received. Fees for testing may apply. Lutron recommends that this testing be performed before the fixtures and lighting controls are purchased and installed. Contact your Lutron sales representative for more information.

Models

Model Number	Description	Region	Operating Voltage	Frequency Band
RMKS-DAL32-SZ	32 device controller	U.K., Europe	220–240 V~	868.125–869.850 MHz
RMKS-DAL4-SZ	4 device controller	U.K., Europe	220–240 V~	868.125–869.850 MHz

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

* See **Models** listed in chart.

Job Name:	Model Numbers:
Job Number:	

Specifications

Regulatory Approvals

- CE
- IEC 60669-2-5
- DALI-2® Certified

Power

- 220–240 V~ 50/60 Hz, max. current 50 mA

Other Power Specifications

- Standby power:
220–240 V~ <0.5 W

System Communication

- Operates using Clear Connect RF technology for reliable wireless communication.
- Wireless sensors and controls must be located within 9 m of the associated control module.

Mounting*

- This device can be installed on a fixture/troffer, junction box, or marshalling box using the conduit nut or with mounting screws. The device must NOT be mounted inside a fixture/troffer or other metallic enclosure.
- Refer to the installation instructions and consult local and national electric codes for proper installation.
- The PowPak Control Module needs to be accessible for some programming steps. Record where it is mounted so that it can be easily located later.

NOTICE: Improper installation can result in degraded wireless communication and/or intermittent or sustained communication failures, and will not be covered under warranty.

Metal Ceiling Mounting

- Metal ceiling grids must have a ≥ 3 mm gap of non-metal material which extends the entire length of the tile on at least one edge. This is often achieved by foam spacers that are used to prevent tile-to-tile rattling.
- Metal ceiling grids which are continuous (with no gap) or those that are interlocked, must have a total surface area that is less than 81 m² for each section. The overall space can be larger as long as there are non-metal sections bordering or intersecting the metal sections.

Environment

- Ambient operating temperature: 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 EN 55015/CISPR 15.

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.

* For more guidelines and installation best practices, refer to Lutron Application Note #620 (P/N 048620) at www.lutron.com

Continued on next page...

Job Name:	Model Numbers:
Job Number:	

Specifications (continued)

DALI® Link

- 18 V_{DC}
- Controls 1–4 or 1–32 DALI® ballasts or drivers (see **Models** on page 1)
 - Multiple drivers/ballasts connected to a Control Module will always work together as a single zone.
- Guaranteed Supply Current
 - 8 mA (RMKS-DAL4-SZ)
 - 64 mA (RMKS-DAL32-SZ)
- Maximum Supply Current: 250 mA
- DALI® Digital Link carries basic isolation from line voltage wires.
- The PowPak Control Module is a single master controller and therefore no other controllers may exist on the same DALI® bus.
- Ensure that there is no greater than a 2 V_{AC} drop between the Control Module and the end of the DALI® Bus.
- Consult all national and local electrical codes for separation requirements.

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

Wire Gauge	Total DALI®-compliant Bus Wire Length
1.5 mm ² (14 AWG)	300 m
0.75 mm ² (18 AWG)	150 m
0.50 mm ² (20 AWG)	100 m

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 LED drivers and ballasts equally.
- For multiple rows of daylighting, a separate PowPak Control Module 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 Control Module.
- Adjustable low-end trim (0.1%–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 drivers or ballasts on the same DALI® circuit.

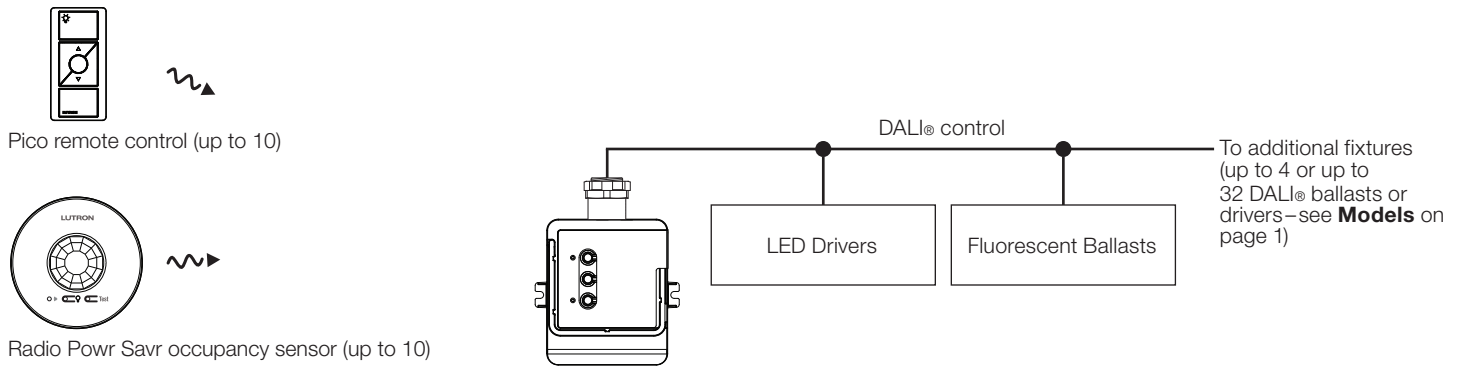
Radio Powr Savr Occupancy Sensors

- Radio Powr Savr occupancy and vacancy sensors control all connected drivers or ballasts.
- Pico remote controls can be used to adjust the occupied levels of fixtures that they control from 0.1%* to 100% (of output signal) or can make them unaffected by occupancy events.
- Vacancy events (area becomes unoccupied) turn all driver or ballast models off or to minimum light level.

* Low-end depends on the minimum output of the connected drivers or ballasts.

<p>Job Name:</p> <p>Job Number:</p>	<p>Model Numbers:</p>
--	------------------------------

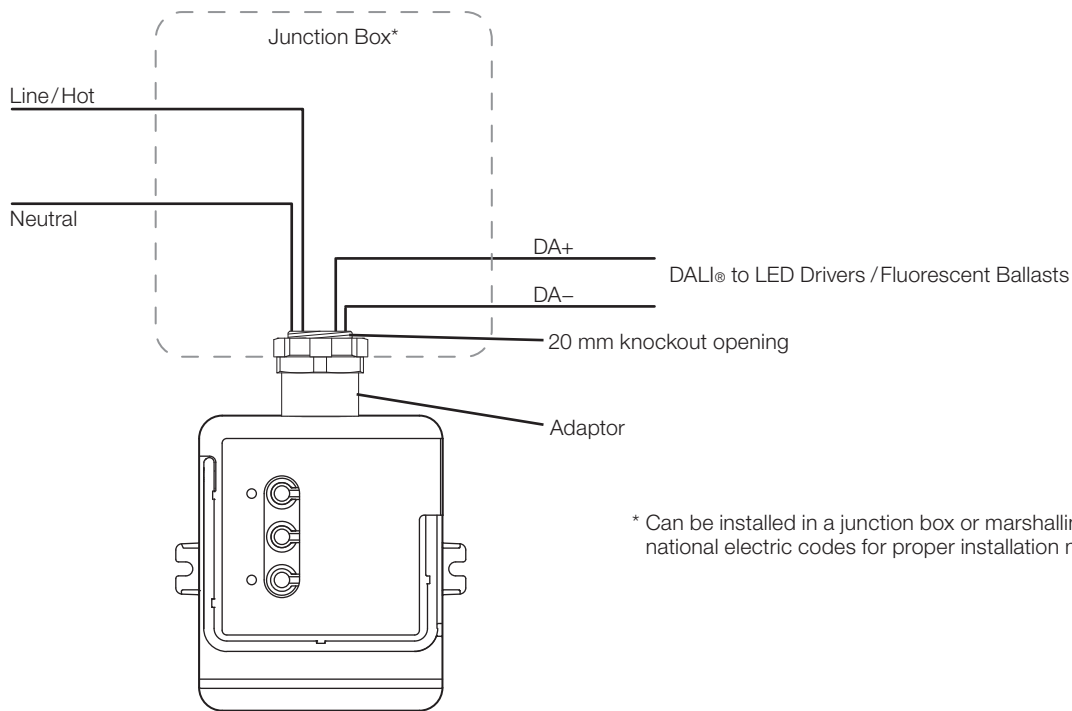
System Diagram



Note: Multiple drivers/ballasts connected to a PowPak Control Module will always work together as a single zone.

Note: The perceived light output of low-end trim may vary between fixture manufacturers and model numbers. For best results, do not mix different drivers or ballasts on the same DALI® circuit.

Wiring Schematic

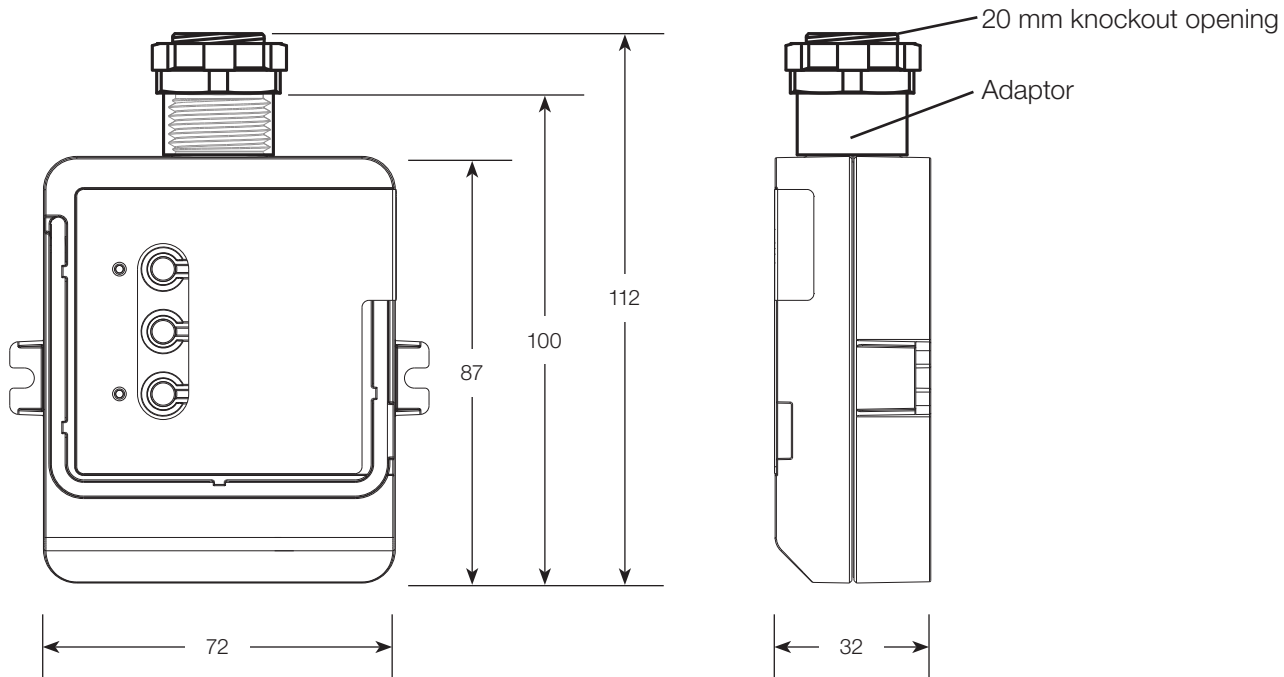


* Can be installed in a junction box or marshalling box. Please follow all local and national electric codes for proper installation methods.

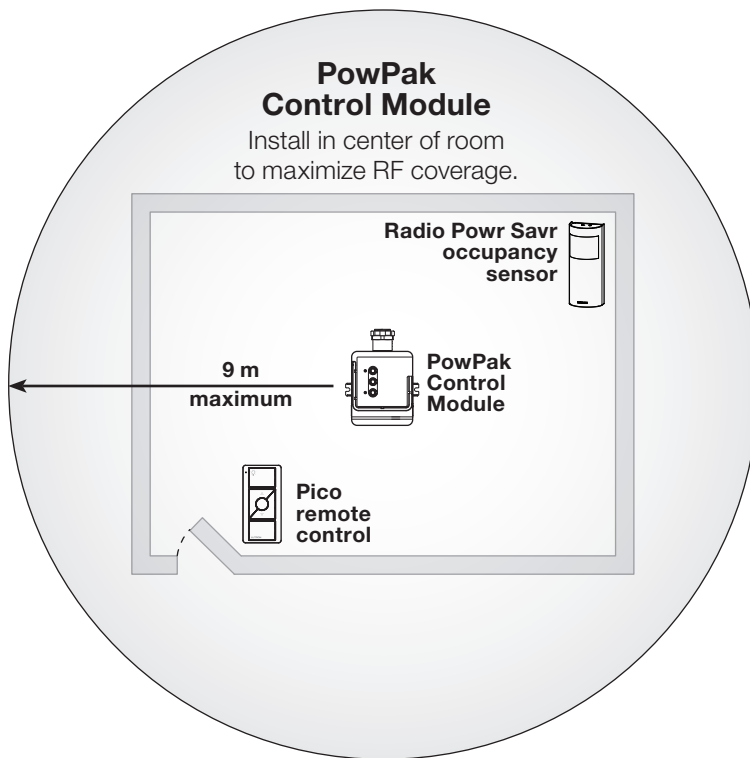
Job Name:	Model Numbers:
Job Number:	

Dimensions

Dimensions are shown as: mm



Wireless Range Diagram



Note: Wireless sensors and controls must be located within 9 m of the associated control module.

- Metal ceiling grids must have a ≥ 3 mm gap of non-metal material which extends the entire length of the tile on at least one edge. This is often achieved by foam spacers that are used to prevent tile-to-tile rattling.
- Metal ceiling grids which are continuous (with no gap) or those that are interlocked, must have a total surface area that is less than 81 m² for each section. The overall space can be larger as long as there are non-metal sections bordering or intersecting the metal sections.

Lutron, Lutron, PowPak, Radio Powr Savr, Clear Connect, Vive, and Pico are trademarks or registered trademarks of Lutron Electronics Co., Inc. in the US and/or other countries.

All other product names, logos, and brands are property of their respective owners.

App Store is a service mark of Apple Inc.

Job Name:	Model Numbers:
Job Number:	