

## Title 24 Outdoor Lighting Controls Solution

California Energy Code Title 24 Section 130.2c\* requires that outdoor lighting systems be capable of automatic shutoff when daylight is available, automatic scheduling control and specific occupancy and dimming control capabilities. Douglas Lighting Controls® offers a solution to achieve these new code requirements by combining the LitePak 2 Lighting Panel and **Bluetooth**® Wireless Fixture Mounted Sensor & Controller (FMS).

### LitePak 2 Lighting Panel(DLP2-8R8D)



#### Features

- Large Capacitive Touchscreen
- Astronomic Time Scheduling-Automatic daylight harvesting
- Simplified Dialog 18/2 communication
- Photosensor for daylight/night light triggering
- Easily add manual controls if local override is needed

### Bluetooth Wireless Fixture Mounted Sensor (BT-FMS)



#### Features

- IP65 Rated-Mount up to 40'-Partial-OFF, ON/OFF
- Automatic daylight harvesting with primary and secondary zoning
- Local area occupancy and/or vacancy sensing
- Local area switching control

### Title 24 §130.2c

(c) Controls for Outdoor Lighting. Outdoor lighting controls shall be installed that meet the following requirements as applicable:

1. All installed outdoor lighting shall be controlled by a photo control or outdoor astronomical time-switch control, or other control capable of automatically shutting OFF the outdoor lighting when daylight is available.
2. All installed outdoor lighting shall be independently controlled from other electrical loads by an automatic scheduling control.
3. All installed outdoor lighting, where the bottom of the luminaire is mounted 25 feet or less about the ground, shall be controlled with automatic lighting controls that meet all of the following requirements:
  - A. Shall be motion sensors or other lighting control systems that automatically controls lighting in accordance with Item B in response to the area being vacated of occupants; and
  - B. Shall be capable of automatically reducing the lighting power of each luminaire by at least 40 percent but no exceeding 90 percent, or provide continuous dimming through a range that includes 40 percent through 90 percent, and
  - C. Shall employ auto-ON functionality when the area becomes occupied; and
  - D. No more than 1,500 watts of lighting power shall be controlled together.

## Solution Overview

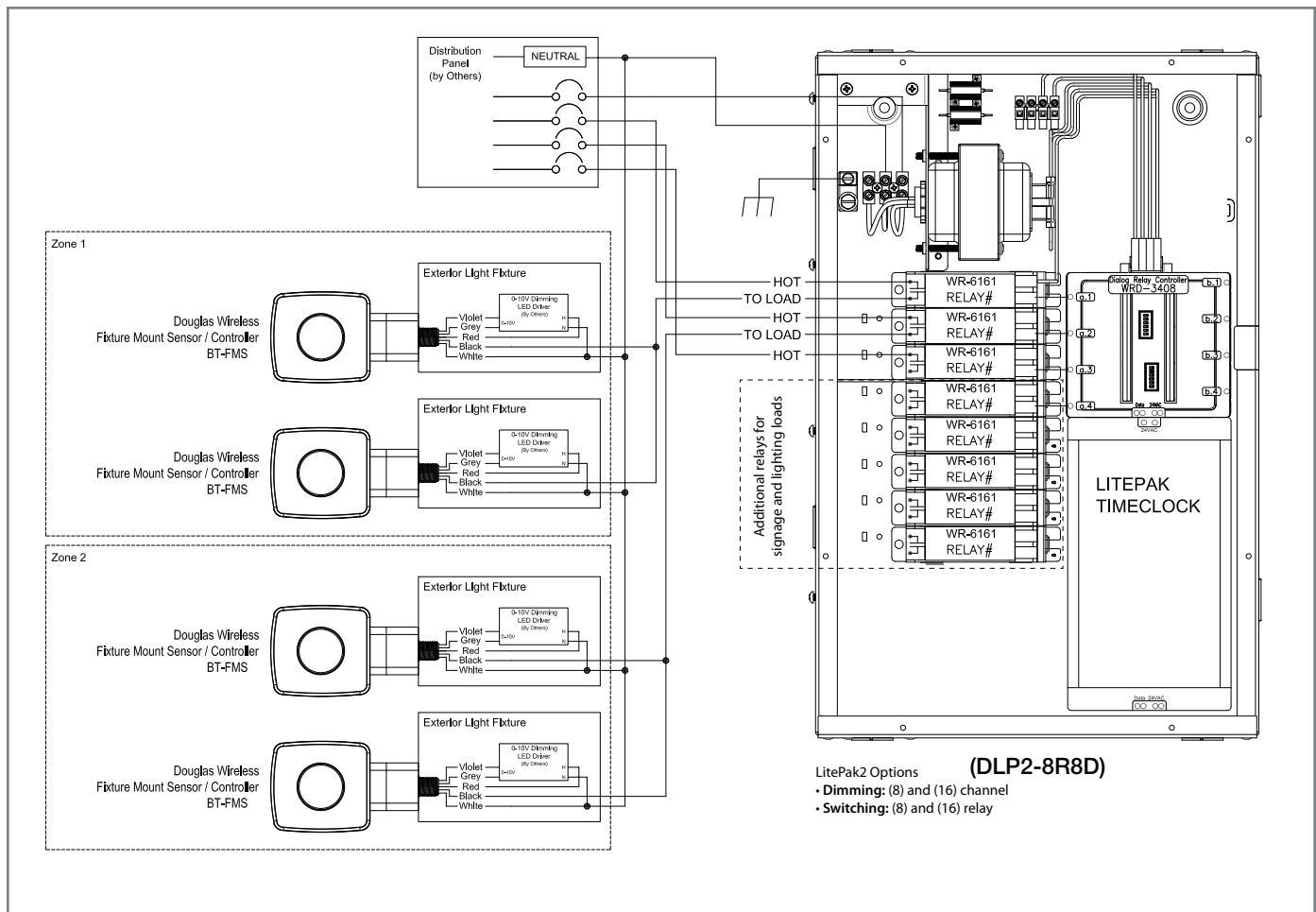
Astronomical time clock energizes and de-energizes exterior lighting circuits based on time of day. Using a photocell is also available for this function.

The FMS sensor provides occupancy status for partial-OFF operation with fully adjustable high and low trim levels.

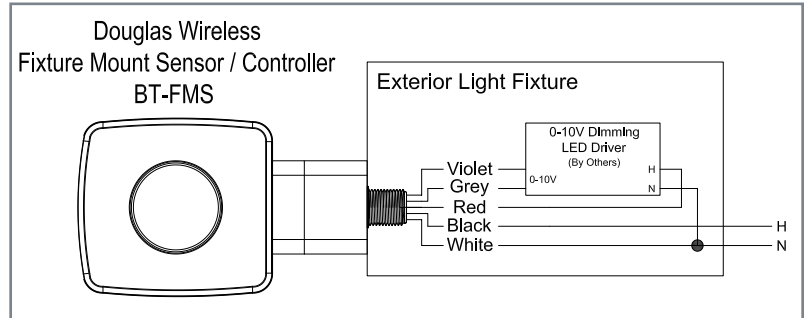
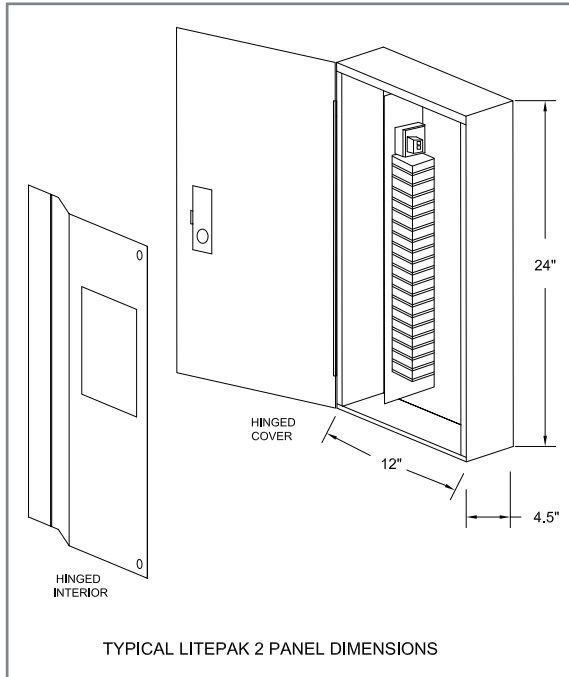
## Sequence of Operations (SOO)

1. Dawn to Dusk: The astronomical time clock is used to control the lights during the daytime.
2. Circuits are de-energized at user defined time via astronomical time clock.
3. Sensor and exterior lighting unaffected by occupancy during this time.
4. Dusk to Dawn: Time clock energizes exterior lighting based on time of day and is controlled by the motion sensor based on occupancy.
5. When motion is detected, lights to 90% of max output.
6. When unoccupied for 15 minutes or more, lights go to partial OFF level of 50%.

## Diagram



## Diagrams



## Ordering Info:

PART NUMBER	DESCRIPTION
BT-FMS-A	Bluetooth® enabled fixture mounted occupancy/daylight sensor and controller
DLP2	Litepak - Relay & Timeclock Panel

\*Available in Flush and N4 enclosures.

\*\*Also available in a 16 capacity panel.

LITEPAK OPTIONS	RELAYS	DIMMERS	COVER TYPE
DLP2-8R-SM	8	None	Surface
DLP2-8R-FM	8	None	Flush
DLP2-8R-N4	8	None	Nema 4
DLP2-16R-SM	16	None	Surface
DLP2-16R-FM	16	None	Flush
DLP2-16R-N4	16	None	Nema 4
DLP2-8R8D-SM	8	8	Surface
DLP2-8R8D-FM	8	8	Flush
DLP2-8R8D-N4	8	8	Nema 4
DLP2-16R16D-SM	16	16	Surface
DLP2-16R16D-FM	16	16	Flush
DLP2-16R16D-N4	16	16	Nema 4

## DOUGLAS LIGHTING CONTROLS

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