

# Tackle Demand Response with GreenMAX®

## Smart centralized control for code compliance



## GreenMAX® Demand Response Solutions from Leviton

**AUTOMATICALLY REDUCE ENERGY USAGE BY 15%**

California Title 24 has quickly become a trademark example of intelligent and effective code compliance that is inspiring other states and municipalities to follow suit. Title 24 shares many of the benchmarks set by national standards such as IECC and ASHRAE 90.1, and exceeds these requirements in several areas. One notable example is the Demand Response requirement, which mandates automatic demand response capabilities for lighting systems in all commercial buildings larger than 10,000 square feet, regardless of space type. While demand response is currently primarily required in California, its effectiveness at lowering energy usage is expected to lead to wider adoption in the near future.

Title 24 Section 130.5(e) specifies that all commercial buildings larger than 10,000 square feet shall be capable of being automatically reduced by a demand response signal by at least 15%:

- Lighting reduction shall be uniform
- Non-habitable spaces do not count toward this requirement
- Spaces with less than 0.5 watt per square foot shall not count toward total power

Demand response controls and equipment shall be capable of receiving and automatically responding to at least one standards-based messaging protocol. The signal instructs the centralized lighting control to reduce energy usage during periods of high power prices or when the reliability of the power grid is threatened.

### PROBLEM

**California commercial facility must upgrade lighting controls to comply with Title 24 code requirements.**

- Space exceeds the 10,000 square foot threshold
- Requires scheduling to accommodate variable business hours and holiday schedules
- Must control 0-10V LED lighting
- Must communicate with native network protocol of BACnet IP
- Desire expandable demand response capabilities to allow the system to evolve with changing requirements

### SOLUTION

**GreenMAX Relay Control Systems offer advanced scheduling and pre-programmed lighting control Behaviors for standalone and large-scale facilities.**

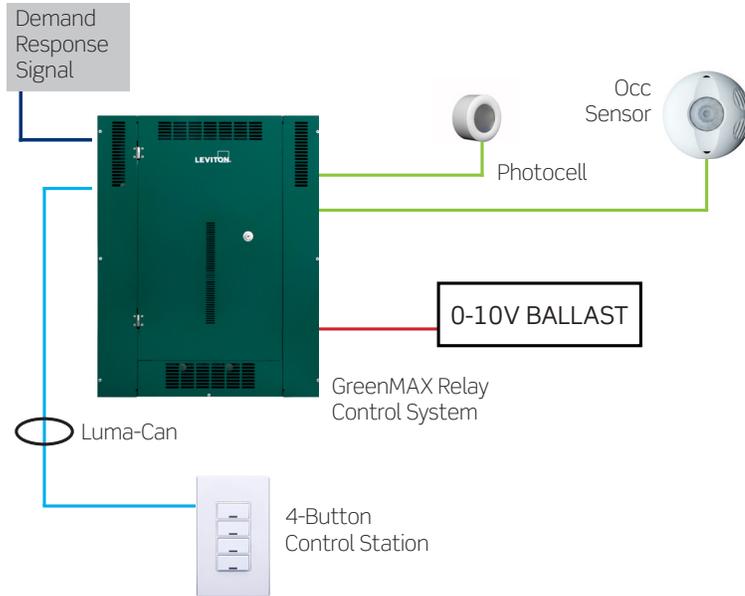
- GreenMAX automatically adjusts lighting loads based on a demand response signal from a BMS or ADR source to comply with 2016 Title 24, Part 6 demand response
- Pre-programmed “Behavior” schedules make advanced lighting control easy
- Supports 0-10V LED dimming, switching and daylight harvesting
- Supports native network protocols of BACnet/IP, Ethernet and LumaCAN to simplify configuration and ensure start-up simplicity
- Three levels of demand response: simple ON/OFF switching, daylight harvesting and dimming

### Leviton Manufacturing Co., Inc. Lighting & Energy Solutions

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## Demand Response - GreenMAX Relay Control System Solution



### USE WHEN:

- Advanced scheduling is desired
- The facility is larger than the 2- or 3-zone capabilities of the IRC, such as:
  - College campuses
  - Airports
  - Large office complexes
  - Shopping malls

### ESSENTIAL CODE-COMPLIANT FUNCTIONS:

- Demand response
- Partial ON/OFF
- Automatic shutoff
- Space control
- Daylight harvesting
- Parking garage control
- External lighting control
- Functional testing

## WHAT YOU WILL NEED

GreenMAX Relay Control Panel Demand Response Solution		
	<b>GreenMAX Relay Control Panel   R16TC-100</b> • Enclosure that houses GreenMAX system components	1
	<b>GreenMAX Command Module   RPM16-316</b> • Includes power supply, main processor unit and low voltage input card	1
	<b>GreenMAX Relays   RELAY-xxx*</b> • Latching relays available in standard and metering models—see data sheet for more information	16
	<b>GreenMAX Relay Insert Panel   R1616-1DS</b> • Fits GreenMAX relays in quantities of 16 (32 and 48 models also available, see data sheet)	1
	<b>GreenMAX Handheld Display Unit   RHDU1-300</b> • Used to configure and program behaviors for the GreenMAX system	1
	<b>4-Button Control Station   RDGSW-4Cx*</b> • Manual lighting control	1
	<b>Ceiling Mount Multi-Technology Occupancy Sensor   OSC20-RMW</b> • Communicates with GreenMAX system on a space's occupancy status	1
	<b>Photocell   ODC0P-00W</b> • Communicates with GreenMAX system on the ambient light level in a space	1

\*See data sheet for part number information



### FOR A SIMPLER DEMAND RESPONSE SOLUTION:

- Use the IRC in the solution above in place of the GreenMAX Relay Control Panel for:
  - 2- and 3-zone applications
  - Executive offices
  - Classrooms
  - Small retail stores and restaurants

Disclaimer: This document is for informational purposes only. Each project will have its own specific requirements for satisfying ASHRAE 90.1 and Title 24 code compliance based on a variety of factors. Other exceptions or details may apply. Review the code for specific requirements and/or consult with a professional advisor. Leviton Mfg. Co., Inc. is not responsible for any loss resulting from the use of any information found in this document. Solutions are subject to change without notice. For additional assistance, contact your local Leviton representative.

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