

California Title 24 2013

Design Guide for Smart Lighting Control and Energy Solutions



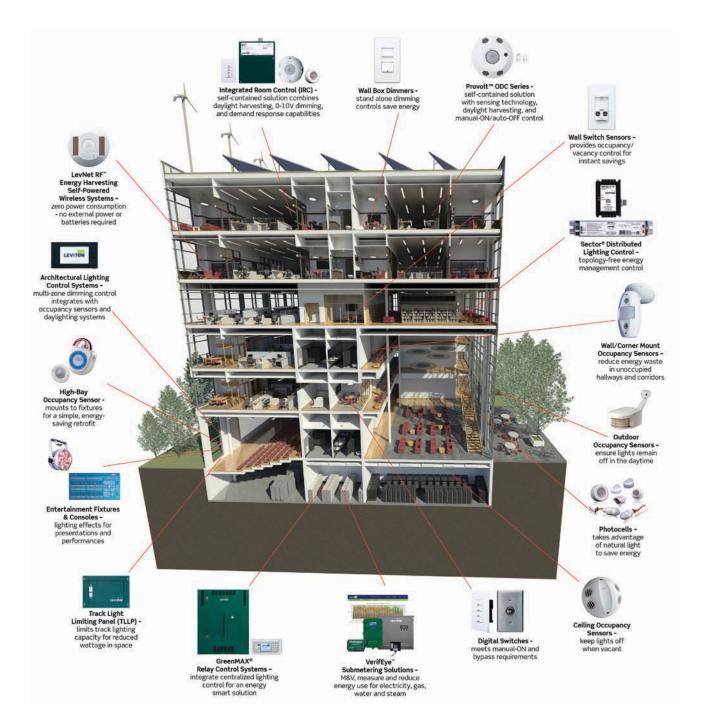












Energy efficiency is more than a single system. It requires a whole building approach.

The basic goal of Title 24 energy standards is the reduction of energy use. A simple and efficient strategy to improve energy efficiency is to automatically turn off lights and devices when they are not in use.

Since lighting currently accounts for nearly 30 percent of California's electricity use, the extensive use of lighting controls is essential and makes up one of the more significant changes to Title 24 2013.

Design Guide for Title 24 Compliant Lighting Control and Energy Solutions

9	Small Office	ļ
	Open Office6)
	Conference Room	}
	Classroom)
S	Stairwell	
	Common Area - Lobby)
H	Hallway	ļ
F	Parking Garage	
F	Retail Space	7
Levi	ton Solutions for California Title 24 2013 Code Compliance 18	}
Levi	ton Value Add Design Services and Support)

















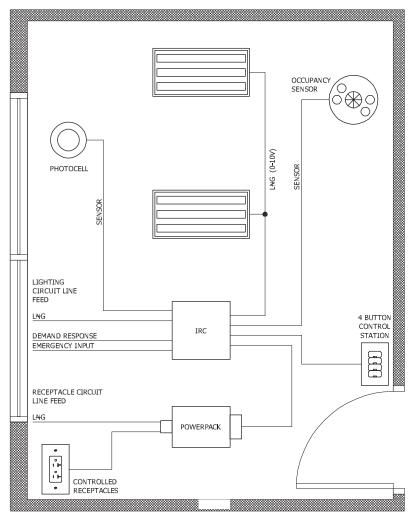


Disclaimer:

This document is for informational purposes only. Each project will have its own specific requirements for satisfying 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.

Small Office Control Solution featuring Integrated Room Control (IRC)

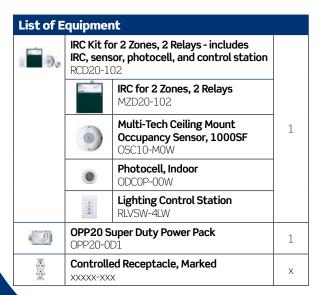


Meets the Following **Title 24 Requirements**

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
- Section 130.1(b)
- Multi-Level Controls
- Dimming
- Task Tuning
- Partial-ON/OFF
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.1(e)
 - Demand Response Power Reduction Controls
- Section 130.5(d)
 - Receptacle Control/ Plug Load Control

Notes:

- Demand response required in all buildings larger than 10,000SF
- At least one controlled receptacle must be installed within 6 ft. of each uncontrolled receptacle or a split duplex can be used
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits

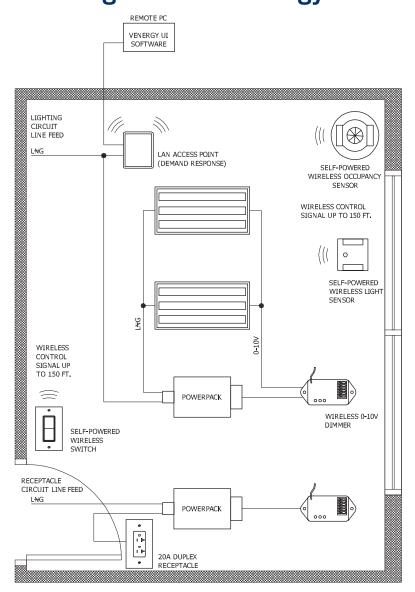


Featured Leviton Title 24 Solution

- Combines occupancy sensing, daylight harvesting, 0-10V dimming, partial ON, partial OFF, and demand response capabilities in a stand-alone package
- Kitted with factory configured sensor, photocell, and 4-button switch
- Autocal™ automatic photocell calibration and Ladderless Commissioning™
- Easy automatic closed or open loop multi-zone daylight harvesting control design
- Auto 100 hour burn-in



Small Office Control Solution featuring LevNet RF™ Energy Harvesting Wireless Solutions



Meets the Following Title 24 Requirements

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
- Section 130.1(b)
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 - Dimming
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.1(e)
 - Demand Response
 - Power Reduction Controls
- Section 130.5(d)
 - Receptacle Control/
 - Plug Load Control

Notes:

- Demand response required in all buildings larger than 10,000SF
- At least one controlled receptacle must be installed within 6 ft. of each uncontrolled receptacle or a split duplex can be used
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits

List of Equipment									
U	LevNet RF Self-Powered PIR Occupancy Sensor WSCxx-IRW	1							
	LevNet RF Self-Powered Light Sensor WSCPC-00W	1							
	LevNet RF 0-10V Dimmer WSD01-010	2							
Ó	LevNet RF Self-Powered Switch WSSOS-DOW	1							
4 1	OPP20 Super Duty Power Pack OPP20-0D1	2							
×	Controlled Receptacle, Marked	Х							
	LevNet RF LAN Access Point & Venergy UI Software WSAPO-TIP	1							

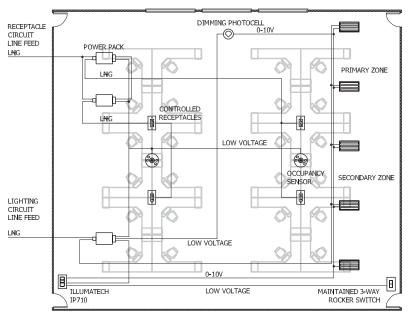
Featured Leviton Title 24 Solution

LevNet RF™ Energy Harvesting Self-Powered Wireless Solutions

- No wires to run and no batteries required install in 1/4th the time—eliminating time and expense of control wiring
- Broad range of switches and control modules to meet virtually any control need including a Receptacle and engraved cover plate to meet plug load control code requirements
- Enables rapid retrofit with minimal impact



Open Office Control Solution featuring Sensing Control



Meets the Following Title 24 Requirements

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
 - Section 130.1(b)
 - Multi-Level Controls
 - Dimming
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.5(d)
 - Receptacle Control/ Plug Load Control

Notes:

- At least one controlled receptacle must be installed within 6 ft. of each uncontrolled receptacle or a split duplex can be used
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits

List of Equipment									
	Ultrasonic Ceiling Mount Occupancy Sensor OSCxx-UOW	2							
•	Photocell, 1-10V Dimming ODCOP-D OW	1							
3	Illumatech Dimmer IP710-xxx	1							
	Decora Rocker, 3-way 05633-xxx	1							
4 0	OPP20 Super Duty Power Pack OPP20-RD4	3							
300	Controlled Receptacle, Marked	Х							

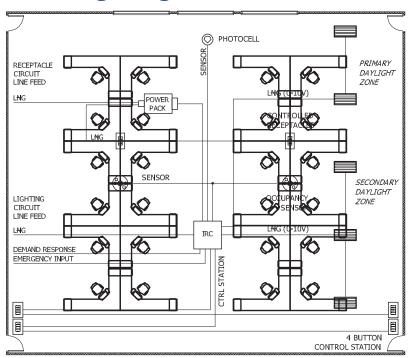
Featured Leviton Title 24 Solution

Sensing Control

- Broadest range of sensors for any application
- Provolt™ integrates occupancy sensing, daylight harvesting, and manual-ON/auto-OFF override control in a single unit - no special control stations required
- Plug load control with OPP20 Super Duty Power Pack
- 24V AC/DC input for integration with HVAC/BAS systems
- Industry leading layout and application services



Open Office Control Solution featuring Integrated Room Control (IRC)

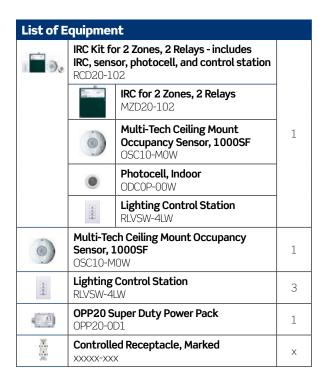


Meets the Following Title 24 Requirements

- Section 130.1(a)
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 - Partial-ON/OFF
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.1(e)
 - Demand Response
 - Power Reduction Controls
- Section 130.5(d)
 - Receptacle Control/ Plug Load Control

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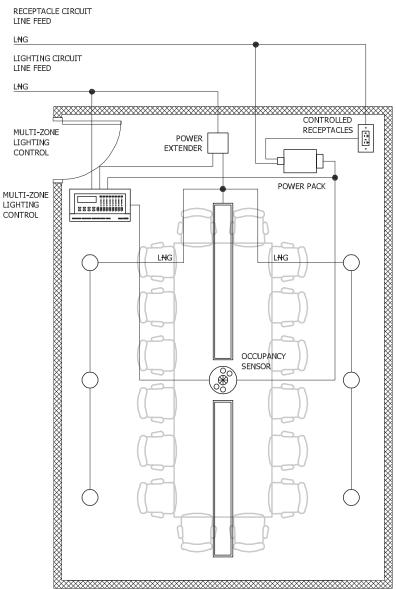


Featured Leviton Title 24 Solution

- Combines occupancy sensing, daylight harvesting, 0-10V dimming, partial ON, partial OFF, and demand response capabilities in a stand-alone package
- Kitted with factory configured sensor, photocell, and 4-button switch
- Autocal™ automatic photocell calibration and Ladderless Commissioning™
- Easy automatic closed or open loop multi-zone daylight harvesting control design
- Auto 100 hour burn-in



Conference Room Control Solution featuring Dimensions® 4000 Lighting Control System



Meets the Following Title 24 Requirements

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
- Section 130.1(b)
 - Multi-Level Controls
 - Dimming
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.1(e)
 - Demand Response Power Reduction Controls
- Section 130.5(d)
 - Receptacle Control/ Plug Load Control

Notes:

- Demand response required in all buildings larger than 10,000SF
- At least one controlled receptacle must be installed within 6 ft. of each uncontrolled receptacle or a split duplex can be used
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits

List of Equipment							
	Dimensions D4206 Multi-Zone Architectural Lighting Control System D4206-1LW	1					
	PE300 Power Extender PE300-D0W	2					
	Multi-Technology Ceiling Mount Occupancy Sensor OSCxx-MOW	1					
	OPP20 Super Duty Power Pack OPP20-0D1	1					
	Controlled Receptacle, Marked xxxxx-xxx	X					

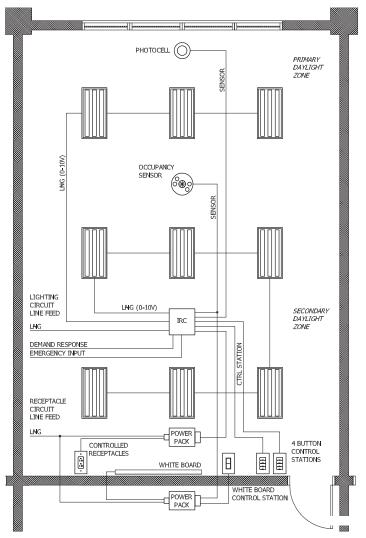
Featured Leviton Title 24 Solution

Dimensions® 4000 Architectural Lighting Control System

- Offers both stand-alone and integrated room dimming and control
- LED compatible with power extender
- Complete multi-event scheduler and integrated astronomical time clock
- Interfaces with HVAC, emergency, time clock, and load shed auxiliary systems



Classroom Control Solution featuring Integrated Room Control (IRC)

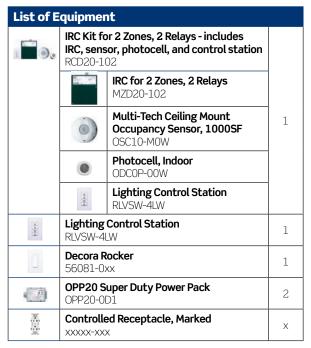


Meets the Following Title 24 Requirements

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
- Section 130.1(b)
 - Multi-Level Controls
 - Dimming
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 - Partial-ON/OFF
- Section 130.1(c)
- Shut-Off Requirements
- Occupancy Control
- Section 130.1(d)
- Daylighting
- Section 130.1(e)
 - Demand Response Power Reduction Controls
- Section 130.5(d)
 - Receptacle Control/ Plug Load Control

Notes:

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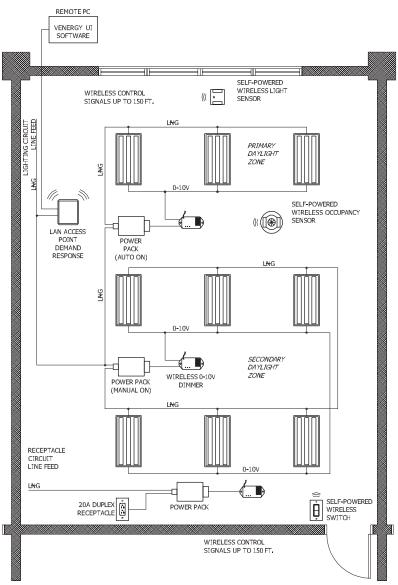


Featured Leviton Title 24 Solution

- Combines occupancy sensing, daylight harvesting, 0-10V dimming, partial ON, partial OFF, and demand response capabilities in a stand-alone package
- Kitted with factory configured sensor, photocell, and 4-button switch
- Autocal™ automatic photocell calibration and Ladderless Commissioning™
- Easy automatic closed or open loop multi-zone daylight harvesting control design
- Auto 100 hour burn-in



Classroom Control Solution featuring LevNet RF™ Energy Harvesting Wireless Solutions



Meets the Following Title 24 Requirements

- Section 130.1(a)
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Notes:

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List of Equipment									
U	LevNet RF Self-Powered PIR Occupancy Sensor WSCxx-IRW	1							
	LevNet RF Self-Powered Light Sensor WSCPC-00W	1							
	LevNet RF 0-10V Dimmer WSD01-010	3							
Ó	LevNet RF Self-Powered Wall Switch WSSOS-DOW	1							
	OPP20 Super Duty Power Pack OPP20-0D1	3							
	Controlled Receptacle, Marked	Х							
	LevNet RF LAN Access Point & Venergy UI Software WSAPO-TIP	1							

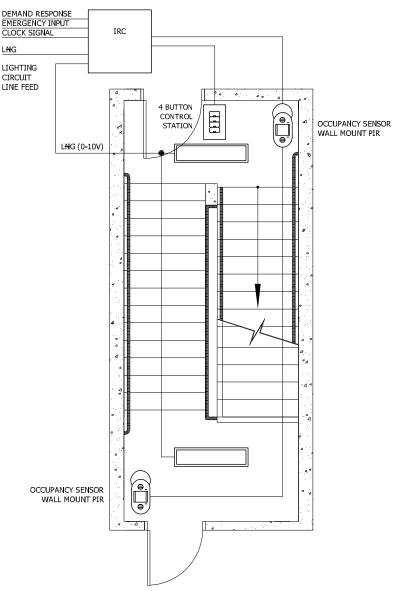
Featured Leviton Title 24 Solution

LevNet RF™ Energy Harvesting Self-Powered Wireless Solutions

- No wires to run and no batteries required install in 1/4th the time—eliminating time and expense of control wiring
- Broad range of switches and control modules to meet virtually any control need including a Receptacle and engraved cover plate to meet plug load control code requirements
- Enables rapid retrofit with minimal impact



Stairwell Control Solution featuring Integrated Room Control (IRC)



Meets the Following Title 24 Requirements

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
- Section 130.1(b)
 - Multi-Level Controls
 - Partial-ON/OFF
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control

Notes:

 Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits

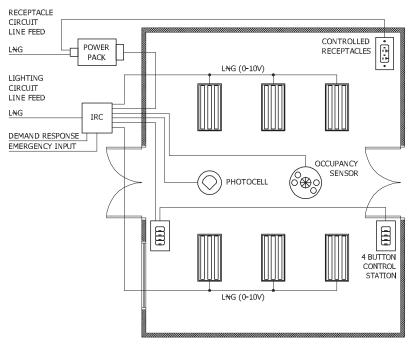
List of E	quipment	
	IRC for 2 Zones, 2 Relays MZD20-102	1
6	PIR Wall/Corner Mount Occupancy Sensor, Wide View OSWWV-IOW	2
***	Lighting Control Station RLVSW-4LW	1

Featured Leviton Title 24 Solution

- Combines occupancy sensing, daylight harvesting,
 0-10V dimming, partial ON, partial OFF, and demand response capabilities in a stand-alone package
- Kitted with factory configured sensor, photocell, and 4-button switch
- Autocal™ automatic photocell calibration and Ladderless Commissioning™
- Easy automatic closed or open loop multi-zone daylight harvesting control design
- Auto 100 hour burn-in



Common Area Control Solution featuring Integrated Room Control (IRC)



Meets the Following Title 24 Requirements

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
- Section 130.1(b)
 - Multi-Level Controls
 - Dimming
 - Task Tuning
 - Partial-ON/OFF
- Section 130.1(c)
- Claut Off Danisan
 - Shut-Off Requirements
- Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.1(e)
 - Demand Response Power Reduction Controls
- Section 130.5(d)
 - Receptacle Control/ Plug Load Control

Notes:

- Demand response required in all buildings larger than 10,000SF
- At least one controlled receptacle must be installed within 6 ft. of each uncontrolled receptacle or a split duplex can be used
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits

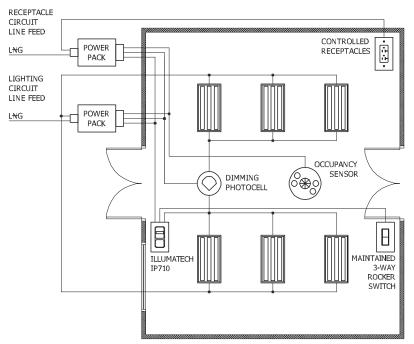


Featured Leviton Title 24 Solution

- Combines occupancy sensing, daylight harvesting, 0-10V dimming, partial ON, partial OFF, and demand response capabilities in a stand-alone package
- Kitted with factory configured sensor, photocell, and 4-button switch
- Autocal™ automatic photocell calibration and Ladderless Commissioning™
- Easy automatic closed or open loop multi-zone daylight harvesting control design
- Auto 100 hour burn-in



Common Area Control Solution featuring 1-10V Dimming Photocell



Meets the Following Title 24 Requirements

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
- Section 130.1(b)
- Multi-Level Controls
 - Dimming
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.5(d)
 - Receptacle Control/ Plug Load Control

Notes:

- At least one controlled receptacle must be installed within 6 ft. of each uncontrolled receptacle or a split duplex can be used
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits

List of E	quipment	
•	Photocell, 1-10V Dimming ODCOP-DOW	1
	Multi-Tech Ceiling Mount Occupancy Sensor OSCxx-MOW	1
3	Illumatech Dimmer IP710-xxx	1
	Decora Rocker, 3-way 05633-xxx	1
	OPP20 Super Duty Power Pack OPP20-0D1	2
	Controlled Receptacle, Marked	Х

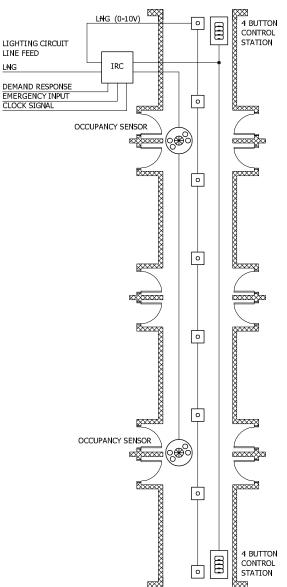
Featured Leviton Title 24 Solution

1-10V Dimming Photocell

- Ideal for open and closed loop daylight harvesting applications
- Autocal™ automatic photocell calibration



Hallway Control Solution featuring Integrated Room Control (IRC)



Meets the Following Title 24 Requirements

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
- Section 130.1(b)
 - Multi-Level Controls
 - Partial-ON/OFF
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(e)
 - Demand Response Power Reduction Controls

Notes:

- Demand response required in all buildings larger than 10,000SF
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits

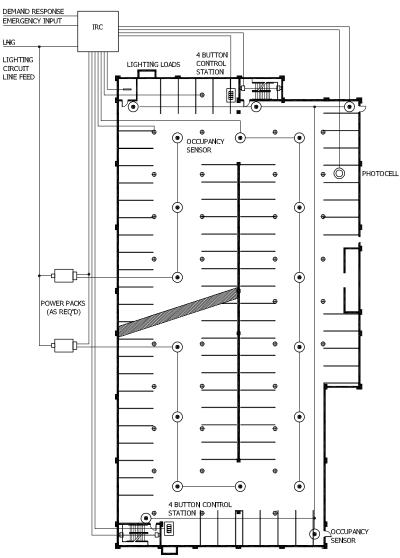
List of Equipment								
Sec. 27	IRC for 2 Zones, 2 Relays MZD20-102	1						
	PIR Ceiling Mount Occupancy Sensor OSCxx-IOW	2						
(A)	Lighting Control Station	2						

Featured Leviton Title 24 Solution

- Combines occupancy sensing, daylight harvesting,
 0-10V dimming, partial ON, partial OFF, and demand response capabilities in a stand-alone package
- Kitted with factory configured sensor, photocell, and 4-button switch
- Autocal™ automatic photocell calibration and Ladderless Commissioning™
- Easy automatic closed or open loop multi-zone daylight harvesting control design
- Auto 100 hour burn-in



Parking Garage Control Solution featuring Integrated Room Control (IRC)



Meets the Following <u>Title 24 Requirements</u>

- Section 130.1(b)
 - Multi-Level Controls
 - Partial-ON/OFF
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.1(e)
 - Demand Response Power Reduction Controls

Notes:

- Demand response required in all buildings larger than 10,000SF
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits

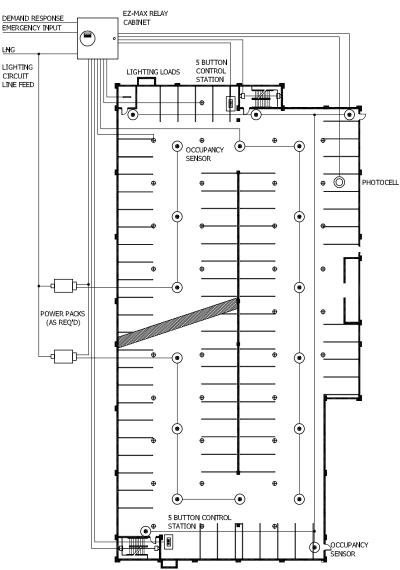
List of E	List of Equipment									
5. 20	IRC for 2 Zones, 2 Relays MZD20-102	1								
	PIR Ceiling Mount Occupancy Sensor OSCxx-IOW	X								
	Photocell, Outdoor PCOUT-000	X								
(4.4)	Lighting Control Station RLVSW-4LW	2								

Featured Leviton Title 24 Solution

- Combines occupancy sensing, daylight harvesting,
 0-10V dimming, partial ON, partial OFF, and demand response capabilities in a stand-alone package
- Kitted with factory configured sensor, photocell, and 4-button switch
- Autocal™ automatic photocell calibration and Ladderless Commissioning™
- Easy automatic closed or open loop multi-zone daylight harvesting control design
- Auto 100 hour burn-in



Parking Garage Control Solution featuring EZ-MAX® Plus Stand-Alone Relay Control System



Meets the Following Title 24 Requirements

- Section 130.1(b)
 - Multi-Level Controls
 - Partial-ON/OFF
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.1(e)
 - Demand Response Power Reduction Controls

Notes:

- Demand response required in all buildings larger than 10,000SF
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical Circuits
- Solution features bi-level HID lighting

List of Equipment								
	EZ-MAX Plus Stand-Alone Relay System R08BD-L08	1						
	PIR Ceiling Mount Occupancy Sensor OSCxx-IOW	X						
	Photocell, Outdoor PCOUT-000	X						
THE STATE OF THE S	Low Voltage Switch, 5-Button OOLVS-05W	2						

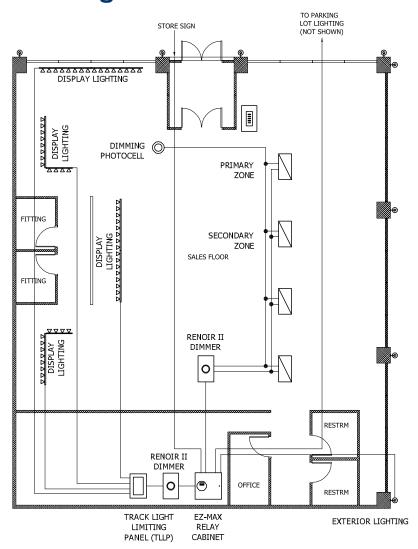
Featured Leviton Title 24 Solution

EZ-MAX® Plus Stand-Alone Relay Control System

- Centralized building lighting control and daylight harvesting in a contractor-friendly, quick to install, simple to configure compact enclosure
- Low voltage inputs allow connection of photocells, occupancy sensors, lowvoltage switches, and digital switches for a comprehensive yet easily installed energy management solution
- Built-in astronomical time clock and scheduler
- Auto-detection and auto-assign of installed network switches



Retail Space Control Solution featuring EZ-MAX® Plus Stand-Alone Relay Control System



Meets the Following Title 24 Requirements

- Section 130.1(a)
 - Area Controls
 - Manual ON/OFF
- Section 130.1(b)
- Multi-Level Controls

 - Dimming
- Section 130.1(c)
 - Shut-Off Requirements
 - Occupancy Control
- Section 130.1(d)
 - Daylighting
- Section 130.1(e)
 - Demand Response Power Reduction Controls

Notes:

- Demand response required in all buildings larger than 10,000SF
- At least one controlled receptacle must be installed within 6 ft. of each uncontrolled receptacle or a split duplex can be used
- Add VerifEye Submetering Solutions to meet Section 130.5(a) - Service Metering, Disaggregation of Electrical

List of Equipment									
	EZ-MAX Plus Stand-Alone Relay System R24BD-L24	1							
•	Track Light Limiting Panel (TLLP) Gxxxx-1xx	1							
	Renoir II Dimmer AWSMT-7xx	2							
•	Photocell, Indoor PCIND-000	1							
[mm _k]	Low Voltage Switch, 5-Button OOLVS-05W	2							

Featured Leviton Title 24 Solution

EZ-MAX® Plus Stand-Alone Relay Control System

- Centralized building lighting control and daylight harvesting in a contractor-friendly, quick to install, simple to configure compact enclosure
- Low voltage inputs allow connection of photocells, occupancy sensors, lowvoltage switches, and digital switches for a comprehensive yet easily installed energy management solution
- Built-in astronomical time clock and scheduler
- Auto-detection and auto-assign of installed network switches



Leviton Solutions for Title 24 Code Compliance

	Partial List of Title 24 2013 Requirements												
Leviton Solutions	Area Control	Egress Lighting	Emergency Lighting (UL924)	Multi-Level Lighting Controls	Automatic Shut-Off	Display / Retail Lighting	Daylighting	Demand Response	Exterior Light Control	Sign Lighting Controls	HVAC Occupancy Controls	Receptacle Control (Plug Load Control)	Energy Metering
Residential													
Dimmers	Χ	-	Xd	Χ	-	Xb	-	-	-	-	-	-	-
Vacancy Sensors	-	Х	Xd	Χ	X	-	-	-	-	-	Х	X	-
Occupancy Sensors	Χ	X	Xd	X	Χ	-	-	-	-	-	X	X	-
Humidity Sensors	-	-	-	-	X	-	-	-	-	-	X	-	-
Programmable Timer Switch	X	-	-	-	X	-	-	-	X	-	-	-	-
Non-Residential													
Vacancy Sensors	-	Х	Xd	X	Χ	-	-	-	-	-	Х	Χ	-
Occupancy Sensors	Χ	Χ	Xd	X	X	-	-	-	-	-	X	Χ	-
Dimmers	Χ	-	Xd	X	-	Xb	-	-	-	-	-	-	-
Dimensions® 4000 Lighting Controls	Χ	-	Xd	X	Xa	-	-	Χ	X	X	-	-	_
Dimensions® 8000 Lighting Controls	Χ	-	Xd	X	Xa	-	-	Χ	X	X	-	-	-
a-2000® Dimming Cabinets	Χ	X	Xd	Χ	Xa	Xb	-	Χ	X	X	-	Χ	-
LevNet RF™ Energy Harvesting Wireless Controls	Χ	Xe	-	Xe	Xe	-	Xe	-	X	X	X	Xe	-
Integrated Room Control (IRC)	Χ	Xb	Xd	Χ	Xa	Χ	Xb	Χ	X	X	X	Xb	_
EZ-MAX® Plus Stand -Alone Relay System	Χ	Xb	Xd	Х	Xa	Xb	Xc	-	X	X	X	Xb	-
GreenMAX® Relay Control Systems	Х	Xb	Xd	Х	Xa	Xb	Xb	Х	X	X	X	Xb	_
Track Light Limiting Panel (TLLP)	-	-	-	-	-	X	-	-	-	-	-	-	-
SectorFlex	X	Xb	Xd	X	Xa	Xb	Xb	X	X	X	X	Xb	-
Sector® Distributed Lighting Control	Χ	Xb	Xd	X	Xa	Xb	Xb	Χ	X	X	X	Xb	-
VerifEye™ Submetering Solutions	-	-	-	-	-	-	-	Х	-	-	-	-	X

X = Solutions help spaces comply with the code requirement when used appropriately
Xa = Use with Leviton occupancy sensor
Xb = Use with Leviton daylight sensor
Xc = Use with Leviton daylight sensor (switched dimming only)
Xd = Use with Leviton Emergency luminaire control (UL924)
Xe = Use with Leviton LevNet RF Occupancy Sensor and/or Daylight Sensor

Leviton Solutions for Demand Response Capabilities

Leviton Solutions	Interface Method
Integrated Room Control (IRC)*	Interface is through contact closure
GreenMAX*	Interface is through contact closure
Sector*	Interface is through contact closure.
Dimensions D4200 controls	Use KCLCM to provide contact closure type interface
Dimensions D8000 controls	Use KCLCM to provide contact closure type interface
a-2000 **	Demand response interface would be dependent on the controls used
Other Dimmer Cabinets **	Demand response interface would be dependent on the controls used

^{*}Leviton solution requires the device that would receive the Demand Response Signal from the utility to be supplied by other. The demand response interface device must have the capability to provide a contact closure or control signal to a Class C relay that can be used to provide contact closure to the Leviton lighting control system.



















^{**} Leviton solutions might require the device that would receive the Demand Response Signal from the utility to be supplied by other. The demand response interface device must have the capability to provide a contact closure or control signal to a Class C relay that can be used to provide contact closure to the Leviton lighting control system.

Leviton Residential Solutions for Title 24 Code Compliance

Universal Dimming Control

- Designed to optimize performance with all classes of lamps dimmable LED, dimmable CFL, and incandescent
- Smooth operation for precise dimming, low-level starting, and flicker-free operation



Universal Sensing Control

- Manual-ON or Auto-ON options for vacancy and occupancy sensors
- Universal dimming sensor
- Humidity sensor and fan control detects excess humidity in a room and automatically activates the ventilation fan to reduce excess condensation



Leviton Non-Residential Solutions for Title 24 Code Compliance

Sensing Control

- Broadest range of sensors for any application
- Provolt[™] integrates occupancy sensing, daylight harvesting, and manual-ON/ auto-OFF override control in a single unit - no special control stations required
- Plug load control with OPP20 Super Duty Power Pack
- 24V AC/DC input for integration with HVAC/BAS systems
- Industry leading layout and application services



Renoir® II Commercial Architectural Wall Box Dimmers

- Universal voltage 120-277V, 60Hz
- Supports virtually all common load types without power extenders
- Multi-location dimming up to 5-way dimming
- Low voltage dimming control for LEDs
- Patented Super-Silent Fan Control Technology (SST)

Sapphire™ Architectural Lighting Controls

- Modern touchscreen user interface integrates with multiple Leviton lighting control systems
- Online and offline configuration
- Supports multiple interfaces LumaCAN®, Ethernet, A/V, HVAC, wireless (LevNet RF), and analog systems
- Software update through USB interface behind front panel



Dimensions® D4000 and D8000

- D4000 controls offer both stand-alone and integrated room dimming and control
- D8000 systems provide distributed control of up to one thousand channels plus
- LED compatible with power extender
- Complete multi-event scheduler and integrated astronomical time clock
- Interfaces with HVAC, emergency, time clock, and load shed auxiliary systems

a-2000® Dimming Cabinets

- Single dimming source for a broad range of loads
- Plug-in dimmer modules for easy maintenance
- Rugged dual-SCR dimmer circuitry for superior dimming performance and reliability
- Contractor-friendly design with a large wiring space for easy installation
- Communication inputs include DMX512, Luma-Net III, RS-485, full bright, emergency, and +0-10VDC analog for versatility



LevNet RF™ Energy Harvesting Wireless Solutions

- No wires to run and no batteries required install in 1/4th the time eliminating time and expense of control wiring
- Broad range of switches and control modules to meet virtually any control need
- Enables rapid retrofit with minimal impact



Leviton Non-Residential Solutions for Title 24 Code Compliance

Integrated Room Control (IRC)

- Combines occupancy sensing, daylight harvesting, 0-10V dimming, partial ON, partial OFF, and demand response capabilities in a stand-alone package
- Kitted with factory configured sensor, photocell, and 4-button switch
- Autocal[™] automatic photocell calibration and Ladderless Commissioning[™]
- Easy automatic closed or open loop multi-zone daylight harvesting control
- Auto 100 hour burn-in



- Centralized building lighting control and daylight harvesting in a contractor-friendly, quick to install, simple to configure compact enclosure
- Low voltage inputs allow connection of photocells, occupancy sensors, low-voltage switches, and digital switches for a comprehensive yet easily installed energy management solution
- Built-in astronomical time clock and scheduler
- Auto-detection and auto-assign of installed network switches

Track Light Limiting Panel (TLLP)

- Prevents overloaded circuits
- Provides tamper-proof current limiting protection for track lighting
- Sets a fixed power consumption limit for designer lighting installations by using the volt amperage rating of the breaker instead of watts per linear feet
- Factory configured to customer specifications arrives ready to install
- Reduces installation costs
- No programming required

GreenMAX® Relay Control System

- Integrates common sensing, dimming, switching, and advanced daylight harvesting applications from the same cabinet
- BACnet IP native in each cabinet for seamless BMS integration
- Industry leading 25,000A Short Circuit Current Rating (SCCR) at 277V
- Integrated 0-10V dimming/switching relay
- Built-in override switch allows manual control of each load individually
- Programming is done with preset "Behaviors" via the industry-exclusive Handheld Display Unit (HDU)

Sector® Distributed Lighting Control System

- Topology-free, polarity-free distributed control
- Combines all lighting management functions into a single system with the fewest connection points, simplest installation, greatest flexibility, and simple specification
- High performance Sector ballasts offer 1% dimming performance
- All components connect directly to the topology free 2-wire bus, not the ballast
- Relay controllers allow zone dimming and control for cost-effective system design

VerifEye™ Submetering Solutions

- Comprehensive line of submeters, communication products, and software solutions
- Simple installation in new or existing facilities
- Measurement & Verification (M&V) capabilities with data collection and storage
- Ideal for real-time energy monitoring and tenant billing
- Integrate with Building Management Systems for energy efficiency and savings
- Meets separation of load requirements with the ability to measure various loads















Service and Support During Every Step of the Process

There is much more to making lighting more energy efficient than just installing a simple device or two. System design, product selection, installation and service: it has all got to come together. That's where Leviton service and support options come in. We'll help you design your system and make the right product selections so you can create a lighting control system that does exactly what you want it to do while saving electricity, meeting codes and standards, and even garnering rebates.

It all starts with the Leviton sales representative. Our lighting control specialists are here to support you every step of the way. They can perform on-site facility audits and suggest specific products and strategies for improving lighting energy efficiency.

Exclusive Wealth of Resources

- **Exclusive Training** contact your local Leviton representative to have a Title 24 expert provide training in person or online exclusively for your team
- Code Assist Services have a team of experts help with designing your Title 24 compliant lighting control and energy management solutions, product selection assistance, data sheets, Bill of Materials, drawings and diagrams email CodeAssist@leviton.com or go to portal.leviton.com
- **Dollars & Sensors® Online Energy Audit Tool** makes energy audits easier than ever use your smart device (Android, Apple, Windows or Blackberry) to enter audit information and your desktop to generate ROI reports, analyses, Bill of Materials, and a submittal package go to www.leviton.com/dollarsandsensors
- Occupancy sensor layout services have a team of experts create occupancy sensor layouts directly on your CAD drawings, complete with a List of Equipment at no cost go to portal.leviton.com
- **LightLogger® Program** get an accurate estimate of your energy-savings potential with this exclusive payback analysis tool go to www.leviton.com/logger
- ez-Learn™ get Leviton smart from the comfort of your home or office with this exclusive 24/7 online training go to www.leviton.com/ezlearn
- **ASAP Lighting Design software** point-and-click software allows you to quickly and simply design, specify and enter orders go to www.leviton.com/asap
- Find more exclusive no cost design tools at www.leviton.com/lesdesign
- Lighting control specialists at your disposal
- Field service engineers for top-level support
- Factory commissioning service
- **Dedicated technical support** via phone at 800 959-6004

Contact your local Leviton Lighting Control Specialist for Title 24 compliant design assistance.



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Visit our Website at: www.leviton.com/title24

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