2018 IECC
Design Guide

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Leviton Excellence for 2018 IECC Standards

IECC standards provide the minimum requirements for energy-efficient design of most buildings (excluding low-rise residential buildings). Leviton offers a wide spectrum of lighting and energy control solutions to bring any project up to standard. This reference guide provides examples of common applications, 2018 IECC compliance considerations and Leviton solutions to meet the functionality and standards compliance needs of any space.

Code and Solutions Summary

Code Comparison: IECC, ASHRAE 90.1 & Title 24 ............................................... 4
2015 and 2018 IECC Requirements Summary .................................................. 8
Product Solutions at a Glance .............................................................. 14

Recommended Solutions for Common Applications

Applications at a Glance .................................................................... 15
Small Office ................................................................................ 16
Open Office ........................................................................... 21
Conference Room ........................................................................... 23
Classroom ................................................................................ 25
Common Area ................................................................................ 28
Retail Space ................................................................................ 30
Convenience Store ........................................................................ 31
Restaurant ................................................................................ 32
Warehouse ................................................................................ 33
Parking Garage ............................................................................. 36
Site Lighting ................................................................................ 37

Leviton Solutions for 2018 IECC Compliance ............................................. 38
Leviton Value Add Design Services and Support ........................................ 41

Energy Standards by State

Commercial State Energy Code Status as of November 2018

Note: For Canadian code compliance, refer to your provincial code

SOURCE: Building Codes Assistance Project, www.bicapcodes.org

This document is for informational purposes only. Each project will have its own specific requirements for satisfying 2018 IECC standard compliance based on a variety of factors. Other exceptions or details may apply. Review the standard 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.

www.leviton.com/iecc 3
## Code Comparison: IECC, ASHRAE 90.1 & 2016 Title 24, Part 6

See the table below for an overview of how the big three energy codes and standards compare. Note that updates for 2018 IECC are highlighted.

<table>
<thead>
<tr>
<th>Control Type</th>
<th>2018 IECC</th>
<th>ASHRAE 90.1 2016</th>
<th>2016 Title 24, Part 6</th>
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</thead>
</table>
| **Manual Space Control** | • Every area enclosed by walls or floor-to-ceiling partitions must have a manual control  
• Controls must be located within the area served by the controls, or must be a remote switch clearly identifying the lights it controls with a status indicator  
• Occupancy sensors must also incorporate a manual control  
• Manual control to reduce the connected load by at least 50% only in areas controlled by a time switch by controlling all lamps (dimming), dual switching, inboard/outboard switching or controlling each fixture/lamp independently | • All spaces shall include manual control devices that are continuous or stepped dimming control devices that control an area no larger than 2,500 sq ft if space is smaller than 10,000 sq ft. If 10,000 sq ft or more, then it must control an area no larger than 10,000 sq ft | • Manual-ON/OFF override control is required in each area enclosed by ceiling-height partitions  
• If lighting is dimmable, controls must be on a dimmer with dimming and manual-ON/OFF capabilities  
• The following areas may use manual-ON/OFF control not accessible to unauthorized personnel:  
  - Public restrooms with 2 or more stalls  
  - Parking areas  
  - Stairwells  
  - Corridors  
• Display/accent/case lighting must be separately controlled |
| **Automatic Shutoff** | • Automatic time switches are required in most areas that are not controlled by an occupancy sensor; the switch must also have a manual override and allow for manual control in locations where occupants have ready access.  
• Occupancy sensors are required in a number of applications that must auto-OFF after 30 minutes (20 minutes in 2018) of vacancy, and be manual-ON or auto-ON to no more than 50% power and include a manual control  
• Occupancy sensors must auto-OFF within 30 minutes (20 minutes in 2018) of occupants leaving the space, and manual-ON or auto-ON to 50% | • Interior lighting must have an automatic control to turn the lights OFF  
• This device can be a scheduling control, an occupancy sensor, or a BAS/BMS system  
• Applicable spaces must be capable of the following:  
  - Manual-ON OR partial-ON—auto-ON to 50%  
  - Bi-level control—step between 30-70% or continuous dimming  
  - Automatic daylight controls  
  - Automatic partial-OFF—reduce to 50% when unoccupied for some spaces  
  - Automatic full-OFF OR scheduled shutoff | • Interior lighting must have an automatic control to turn the lights OFF  
• This device can be a scheduling control, an occupancy sensor, or a BAS/BMS system  
• Different applications have specific guidelines for partial-OFF and auto-OFF sensors; see the code for details  
• Where multi-level controls are required, sensors must act as a partial-ON sensor OR vacancy sensor  
• Partial-ON may only activate lights between 50-70% power |
### Multi-Level Area Lighting Controls

- Each area required to have manual control is also required to be able to reduce the lighting by 50% (60% in 2018 for open offices).
- All spaces must have a lighting control that is either manual-ON or auto-ON to <50% of lighting load.
- In addition to controls that switch OFF all lighting, enclosed spaces must have controls that reduce the lighting by 30-70% of the full lighting load.
- Manual-ON/OFF override control is required in each area enclosed by ceiling-height partitions.
- All general area lighting in rooms >100 sq ft and < 0.5W/sq ft shall meet control step requirements of Table 130.1-A Multi-Level Lighting Controls & Uniformity.
- The following areas do not require multi-level area control:
  - Areas with a single luminaire with no more than 2 lamps
  - Partial-OFF areas including:
    - Aisle ways and open areas in warehouses
    - Library book stack aisles
    - Corridors and stairwells
    - Parking garages, parking areas, loading/unloading areas.

### Automatic Daylight Control

- Control required in daylight control zones that provide these areas with separate control that is independent of the general lighting in the space, which can be stepped or continuous dimming.
- Calibration must be readily accessible.
- Required in spaces where more than 150W of lighting is installed in the Sidélit and Toplit zones.
- Toplit zones must be controlled independent of lights in Sidélit zones.
- Offices, classrooms, labs, and library reading rooms must dim lights continuously from full power to 15% of full light output and be capable of full shutoff of all controlled lights.
- Daylit zones in different orientations (N/S/E/W) over 150W must be controlled separately.
- Sidélit and Toplit areas must be separately controlled by a photocell control, which can be stepped or continuous dimming.
- Must reduce lighting power in response to available daylight with continuous dimming or with control steps between 50-70%, 20-40%, and OFF.
- In general area lighting areas, photocontrols are required in all interior daylight spaces with at least 24 sq ft of glazing and a total of 120W or more of installed lighting power in daylight and skylight zones.
- Includes nearly every non-residential space with skylights or windows.
- Secondary zones must have the same level of functionality as those in the primary zone.
- Zones must be controlled separately.
- Photocontrols are required in parking garages with at least 36 sq ft of opening and at least 60W of installed lighting power in daylight areas.
## Code Comparison: IECC, ASHRAE 90.1 & 2016 Title 24, Part 6

See the table below for an overview of how the big three energy codes and standards compare. Note that updates for 2018 IECC are highlighted.

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<tr>
<td><strong>Automatic Receptacle Control</strong></td>
<td><strong>Required in:</strong> Hotel/motel guest rooms</td>
<td><strong>Required in:</strong> Private offices, Open office spaces, Computer classrooms, Hotel/motel guest rooms, Conference rooms, Printing/copy rooms, Classrooms, Individual workstations, 25% of branch circuit feeders installed for modular furniture, Must be turned off via time-of-day control, or control system/occupancy sensor after 20 minutes of vacancy</td>
<td><strong>Required in:</strong> Private offices, Open office spaces, Reception lobbies, Conference rooms, Kitchenettes, Copy rooms, Hotel/motel guest rooms</td>
</tr>
</tbody>
</table>
| **Exterior Lighting Control** | **Exterior lighting designated for dusk to dawn operation shall be controlled by an astronomical time clock or photocontrol**  
- Lights shall be automatically turned off when daylight is present and satisfies the lighting needs  
- Lighting not designated for dusk to dawn operation shall be controlled by either a combination of a photocell and time switch, or an astronomical time clock  
- Non-facade or landscape lighting must automatically reduce lighting by at least 30% in the following times:  
  - From midnight to 6 am  
  - During any period when activity has not been detected for 15 minutes  
- Building facade lighting shall automatically shut off no later than one hour after business closing, to no earlier than one hour before business opening | **Exterior lighting must be controlled by a device to automatically turn lighting OFF as a function of available daylight**  
- Controls must reduce advertising/sign lighting power by at least 30% after closing  
- Building facade lighting must be controlled based on opening/closing time  
- Any other lighting shall have controls configured to reduce connected lighting power by no less than 30% from midnight-6am, OR 1 hour of business closing to 1 hour of business opening, OR any time space is unoccupied for more than 15 minutes | **Exterior incandescent lighting >100W must be controlled with a motion sensor**  
- All outdoor lighting must be controlled with a photocell and an automatic time switch OR astronomical time switch control  
- Lighting that is <24 ft from the ground must be controlled to automatically reduce lighting by 40-80% when the area is vacant, and auto-ON when occupied (see wattage exceptions)  
- Outdoor signage that is on all day and night, 24/7, must be controlled with a photocell and an automatic time switch control, and reduce sign lighting by a minimum 65% during nighttime  
- Lights must be turned OFF during daylight hours via a photocell and an automatic time switch control OR astronomical time switch control, and reduce sign lighting by a minimum 65% during nighttime  
- Any other lighting shall have controls configured to reduce connected lighting power by no less than 30% from midnight-6am, OR 1 hour of business closing to 1 hour of business opening, OR any time space is unoccupied for more than 15 minutes  
- Exterior incandescent lighting >100W must be controlled with a motion sensor |
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| Parking Garage Control         | • Must adhere to the standard requirements for lighting control, space control and automatic daylight control with stepped control or continuous dimming OR manual switched daylighting control | • Parking garage lighting zones must be controlled by a device that reduces power by 30% after 20 mins of vacancy  
• Open exterior walls must utilize automatic daylight harvesting  
• Covered vehicle entrances and exits must automatically reduce lighting by 50% from sunset to sunrise  
• Perimeter fixtures must be controlled in response to daylight | • Occupancy sensors must reduce power with one control step between 20-50% of lighting power  
• No more than 500W of lighting may be controlled per zone  
• Automatic controls must turn lights to full-ON and be activated from all paths of egress |
| Functional Testing             | • Prior to passing final inspection, the registered design professional shall provide evidence that the lighting control systems have been tested and are working properly in accordance with construction documents and the manufacturer’s instructions  
• Functional testing shall be in accordance with Sections C408.3.1.1 through C408.3.1.3 for the applicable control type | • The party responsible shall not directly be involved in either the design or construction of the project | • All lighting controls must be tested by a Certified Lighting Control Acceptance Test Technician (CLCATT)  
• This can be done by the same electrical contractor that did the work if they are CLCATT |
| Demand Response                | --                                                                        | --                                                                               | • Required in all nonresidential buildings >10,000 sq ft  
• Must be capable of automatically reducing total lighting power usage by at least 15% |
| Service Metering               | --                                                                        | --                                                                               | Requirements include user accessible metering of total electrical use per Table 130.5-A |
| Disaggregation of Electrical Circuits | --                                         | --                                                                               | • Specifications for the separation of 10 types of electrical loads for switchboards, panels and motor control centers required to be disaggregated per Table 130.5-B |
## Occupancy Sensors

<table>
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| C405.2.2.2   | Occupancy sensors shall be installed in the following locations:  
- Classrooms  
- Conference/meeting rooms  
- Employee lunch and break rooms  
- Enclosed offices  
- Open plan office areas  
- Private offices  
- Restrooms  
- Storage rooms  
- Janitorial closets  
- Other spaces 300 sq ft or less enclosed by floor-to-ceiling-height partitions  
- Copy/print rooms  
- Lounges/Breakrooms  
- Locker rooms  
- Warehouse storage areas  
These automatic occupancy sensor control devices shall be installed to automatically turn lights off within 30 minutes (20 minutes in 2018) of all occupants leaving the space, and shall either be manual-ON or controlled to automatically turn the lighting on to no more than 50% power. They must incorporate a manual control to allow occupants to turn lights off in readily accessible areas.  
Full auto-ON controls shall be permitted to control lighting in the following exempt areas:  
- Public corridors  
- Stairways  
- Restrooms  
- Primary building entrance areas and lobbies  
- Areas where manual-ON operation would endanger the safety or security of the room or building occupants  
In warehouses, aisleway and open area lighting must include occupancy sensing with each aisleway that is independently controlled to reduce lighting by at least 50% when unoccupied. | Occupancy sensors are required in a number of common smaller-sized commercial applications.  
The installed occupancy sensors must auto-OFF after 30 minutes of vacancy, and either be manual-ON or auto-ON to no more than 50% power. They must also include a manual control.  
**Leviton Product Solutions**  
- Occupancy sensors  
- Vacancy sensors |
| C405.2.1.3   | Open Plan Office Control  
  | If open office area is less than 300 sq ft, follow C405.2.1.1 for general occupancy sensor requirements.  
  | If open office area is equal or greater than 300 sq ft:  
- All zones are switched separately  
- For ALL control zones - automatically turn off all zones within 20 minutes of all occupants leaving the space  
- For EACH control zone - reduce lighting power by not less than 80%, or switch off, within 20 minutes of occupants leaving specific zones  
Daylight responsive controls in each zone are only active when a specific zone is occupied. | Occupancy sensing controls are now required in open office plan areas and must control separate zones, dim lighting power and automatically turn lights off after 20 minutes when a space is vacant.  
**Leviton Product Solutions**  
- Occupancy sensors  
- Vacancy sensors  
- Photocells |
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<tr>
<td><strong>C405.2.2.1</strong> Automatic Time Switch Control</td>
<td>Automatic time switch controls shall be installed to control lighting in all areas of the building not controlled by occupancy sensors.*  The automatic time switch control device shall include an override switching device that complies with the following:  • The override switch shall be in locations where occupants have ready access  • The override switch shall be located where the lights controlled by the switch are visible; or the switch shall provide a mechanism which announces the area controlled by the switch  • The override switch shall permit manual operation  • The override switch, when initiated, shall permit the controlled lighting to remain on for a maximum of 2 hours  • Any individual override switch shall control the lighting for a maximum area of 5,000 sq ft  • Has a minimum 7-day clock  • Is capable of being set for 7 different day types/schedules per week  • Includes automatic holiday scheduling shutoff feature to turn off lighting loads for at least 24 hours for holiday closures  • Has program backup capabilities to prevent loss of settings for a minimum 10 hours in case of power interruption  Within mall concourses, arcades, auditoriums, single tenant retail spaces, sales areas, manufacturing facilities, and sports arenas:  • The time limit shall be permitted to exceed 2 hours provided the override switch is a captive key device  • The area controlled by the override switch is permitted to exceed 5,000 sq ft but shall not exceed 20,000 sq ft  • Exceptions for the following spaces:    - Sleeping units    - Spaces where patient care is directly provided    - Spaces where an automatic shutoff would endanger occupant safety or security    - Lighting intended for continuous operation</td>
<td>Automatic time switches are required in all areas that are not controlled by an occupancy sensor. The switch must also have a manual override.  Several applications, including malls, arcades, auditoriums, single-tenant retail and industrial, have specific requirements and exceptions.  Leviton Product Solutions  • Provolt™ Room Controller  • IRC  • Lumina™ RF Standalone  • Intellect™  • GreenMAX® DRC  • EZ-MAX® Plus  • GreenMAX® Relays  • Sapphire™  • Dimensions®</td>
</tr>
<tr>
<td><strong>C405.2.2.3</strong> Interior Manual Lighting Controls</td>
<td>Each area enclosed by walls or floor-to-ceiling partitions shall have at least one manual control for the lighting serving that area that reduces the lighting load by at least 50% in areas controlled by a time switch. The required controls shall be located within the area served by the controls or be a remote switch that identifies the lights served and indicates their status.* The control must also be readily accessible to occupants.  • Exceptions for areas that use daylight harvesting controls</td>
<td>Most indoor spaces must have at least one manual lighting control that controls that room.  Leviton Product Solutions  • Decora® Wall Switches  • Wall Box Dimmers  • Wall Switch Sensors  • Lumina™ RF Standalone  • Intellect™  • GreenMAX® DRC  • Sapphire™  • Dimensions®</td>
</tr>
</tbody>
</table>

*Standard includes exceptions; please refer to 2015 and 2018 IECC for more information
## Control Type Summary Quick Take

**C405.2.1.2 Light Reduction Controls**

Each area that is required to have a manual control shall also allow the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern by at least 50%. Lighting reduction shall be achieved by one of the following or other approved method:

- Controlling all lamps or luminaires;
- Dual switching of alternate rows of luminaires, alternate luminaires or alternate lamps;
- Inboard/outboard switching;
- Switching each luminaire or each lamp separately

Light reduction controls need not be provided where daylight responsive controls are used.

### Lighting that requires manual control as defined in Section C405.2.1.1 must also have partial-OFF capabilities that reduce lighting by at least 50%.

### Standard includes additional requirements for open office areas; see 2018 IECC for more information.

**Leviton Product Solutions**

- Decora® Wall Switches
- Wall Box Dimmers
- Wall Switch Sensors
- Provolt™ Room Controller
- IRC
- Lumina™ RF Wireless
- Intellect™
- GreenMAX® DRC
- EZ-MAX® Plus
- GreenMAX® Relays
- Sapphire™
- Dimensions®

**2015 and 2018 IECC Requirements Summary**

Note that updates for 2018 IECC are highlighted.

### Daylight Responsive Controls

Daylight responsive controls must control daylight zones within the following spaces:

- Spaces with more than 150W of general lighting within sidelight daylight zones (excludes areas required to have specific application control)
- Spaces with more than 150W of general lighting within toplight daylight zones
- Spaces with general lighting or zone control general lighting only when occupancy for the same area is detected

Such controls must comply with the following guidelines:

- Lighting in toplight daylight zones must be independently controlled separate from lights in sidelit daylight zones
- Must allow calibration from within the space by authorized personnel with mechanisms that are readily accessible
- In offices, classrooms, laboratories and library reading rooms, controls must dim lighting continuously from 15-100% of full power
- Must be capable of complete shut off of all controlled lighting
- Lighting in sidelit daylight zones facing different directions (i.e. within 45 degrees of due north, east, south, west) must be controlled independently from one another

Toplit and sidelit zones are defined and calculated within the code—see 2018 IECC for specific details.

### Daylight responsive controls are required in both toplit and sidelit daylight areas, which must be independently controlled with accessible calibration devices. See code for specific calculations and guidelines for determining toplit and sidelit areas.

**Leviton Product Solutions**

- Photocells
- Provolt™ Room Controller
- IRC
- Lumina™ RF Standalone
- Intellect™
- GreenMAX® DRC
- EZ-MAX® Plus
- GreenMAX® Relays
- Sapphire™
- Dimensions®

For complete standards and more information, refer to www.iccsafe.org.
<table>
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</thead>
</table>
| **C405.2.2.3** Daylight Zone Control (C405.2.3 in 2018) | Daylight zones shall be designed such that lights in the daylight zone are controlled independently of general area lighting and are controlled in accordance with the following guidelines: Each daylight control zone shall not exceed 2,500 sq ft. Contiguous daylight zones adjacent to vertical fenestration are allowed to be controlled by a single controlling device provided that they do not include zones facing more than two adjacent cardinal orientations. Daylight zones under skylights more than 15 ft from the perimeter shall be controlled separately from daylight zones adjacent to vertical fenestration. Daylight zones enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting. Daylighting control devices shall be capable of automatically reducing the lighting power in response to available daylight by either of the following methods:  
  - Continuous dimming using dimming ballasts and daylight-sensing automatic controls that are capable of reducing the power of general lighting in the daylit zone continuously to less than 35% of rated power at maximum light output  
  - Stepped dimming using multi-level switching and daylight-sensing controls that are capable of reducing lighting power automatically. The system shall provide a minimum of two control channels per zone and be installed in a manner such that at least one control step is 50-70% of full-ON and another control step no greater than 35% of full-ON. In areas with multi-level controls, lighting in the daylight zone shall be separately controlled by at least one multi-level lighting control that reduces the power in response to daylight available in the space. Where the daylight illuminance in the space is greater than the rated illuminance of the general lighting of daylight zones, the general lighting shall be automatically controlled so that it is no greater than 35% of full-ON. Multi-level lighting control shall be located so that calibration and set point adjustment controls are readily accessible and separate from the light sensor. | Daylighting zones must be controlled independently from general area lighting using either stepped or continuous dimming methods. Spaces with multi-level controls must have at least two levels that reduce full-ON in response to ambient light present in the space: one level of no more than 50-70% of full-ON, and the second to no more than 35% of full-ON. **Leviton Product Solutions**  
  - Photocells  
  - Provolt™ Room Controller  
  - IRC  
  - Intellect™  
  - GreenMAX® DRC  
  - EZ-MAX® Plus  
  - GreenMAX® Relays  
  - Sapphire™  
  - Dimensions® |
| **C405.2.4** Specific Application Controls | Specific application controls shall be provided for the following:  
  - Display and accent lighting  
    - Must be independently controlled  
  - Display case lighting  
    - Must be independently controlled  
  - Hotel/motel sleeping units and guest suites  
    - Must have a master control device at the main room entry that controls all permanently installed luminaires and switched receptacles and switches OFF within 20 minutes of vacancy  
  - Open offices  
    - Must be independently controlled  
  - Task lighting  
    - Must be independently controlled with an easily accessible wall-mounted device  
  - Non-visual lighting (plant growth, food warming, etc.)  
    - Must be independently controlled by a timeswitch control  
  - Demonstration lighting  
    - Must be independently controlled  
  - Dwelling units must comply with motion sensor and light reduction control requirements | Everything must be independently controlled and also be controlled by an occupancy or time switch, with the exception of non-visual lighting, which must have its own separate time switch control. **Leviton Product Solutions**  
  - Decora® Wall Switches  
  - Wall Box Dimmers  
  - Wall Switch Sensors  
  - Lumina™ RF Wireless  
  - LevNet RF™ Wireless  
  - Receptacle Controls |
### 2015 and 2018 IECC Requirements Summary

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<td>C405.2.2</td>
<td>Each area that is required to have a manual control shall also have controls that meet the requirements of Sections C405.2.2.1, C405.2.2.2 and C405.2.2.3.</td>
<td>Lighting that requires manual control as defined in Section C405.2.5 must also meet the time switch, occupancy sensor and daylighting zone requirements (with some exceptions)</td>
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<tr>
<td><strong>Leviton Product Solutions</strong></td>
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<td><strong>Dimensions®</strong></td>
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<tr>
<td>C405.2.4</td>
<td>• Lighting not designated for dusk-to-dawn operation shall be controlled by either a combination of a photosensor and time switch, or an astronomical time switch.</td>
<td>All exterior lighting requires a combination of specific controls, which vary depending on dusk-to-dawn operation.</td>
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<td><strong>Leviton Product Solutions</strong></td>
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<td>• Lighting designated for dusk-to-dawn operation shall be controlled by an astronomical time switch or photosensor.</td>
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<td>• All time switches shall be capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.</td>
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<td>All exterior lighting (with the exception of emergency lighting) that is intended to be auto-OFF during building operation, is specifically required to meet health/safety requirements or decorative gas lighting systems must include controls that comply with the following:</td>
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<td></td>
<td>• Auto-OFF as a function of available daylight</td>
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<td></td>
<td>• For facade or landscape lighting, must auto-OFF as a function of sunrise/sunset clock and a set opening and closing time schedule.</td>
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<td>• For non-facade/landscape lighting, must be configured to automatically reduce lighting by at least 30% from midnight to 6 am, from one hour after business closing to one hour before business opening, or during any period when activity has not been detected for at least 15 minutes.</td>
<td></td>
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<tr>
<td></td>
<td>• Daylight Shut-Off and Decorative Lighting Shut-Off.</td>
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## Leviton Solutions at a Glance

### 2018 IECC Standards

<table>
<thead>
<tr>
<th>Section</th>
<th>C405.2.1 Occupancy Sensors</th>
<th>C405.2.2.1 Automatic Time Switch Controls</th>
<th>C405.2.2.2 Interior Manual Lighting Controls</th>
<th>C405.2.2.2 Light Reduction Controls</th>
<th>C405.2.3.1 Daylight Zone Controls</th>
<th>C405.2.4 Specific Application Controls</th>
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### Product Solutions

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NOTE: Solutions may require other products to complete a code compliant energy control solution—consult Leviton for more information.
Leviton Applications at a Glance

Note: All indicated applications can be found in the IECC Applications Cookbook. Solutions represented in this Design Guide are represented by a green X.

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<th>Open Office</th>
<th>Conference Room</th>
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Small Office—Single Zone
Provolt™ Room Controller (PRC)

Meets the Following Requirements:

- **Section C405.2.2.2** - Interior Manual Lighting Controls
- **Section C405.2.2.2** - Light Reduction Controls
- **Section C405.2.1** - Occupancy Sensors
- **Section C405.2.3.1** - Daylight Zone Control
- **Section C408.3** - Functional Testing
- **Section C405.2.3** - Daylight Responsive Controls

Features:

- 0-10V Dimming Control
- Self-contained occupancy sensor, photocell and power pack
- Vacancy or Occupancy Sensing with Auto-OFF
- Auto Calibration
- Daylighting Set Point Adjustment through Entry Station

What you will need (sold separately)

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Small Office—Dual Zone
Provolt™ Room Controller (PRC)

Meets the Following Requirements:

- Section C405.2.2.2
  - Interior Manual Lighting Controls
- Section C405.2.2.2
  - Light Reduction Controls
- Section C405.2.1
  - Occupancy Sensors
- Section C405.2.3
  - Daylight Zone Control
- Section C408.3
  - Functional Testing
- Section C405.2.3
  - Daylight Responsive Controls

Features:

- 0-10V Dimming Control
- Self-contained occupancy sensor, photocell and power pack
- Vacancy or Occupancy Sensing with Auto-OFF
- Auto Calibration
- Daylighting Set Point Adjustment through Entry Station

- Emergency Input
- Decora® 4-Button Entry Station
- Plug Load Control
- Time Clock Input
- Demand Response

FEATURED LEVITON IECC SOLUTION

Provolt Room Controller (PRC)

- Comprehensive solution integrates multiple lighting control strategies—occupancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF and demand response
- Combined line voltage multi-technology or PIR sensor, power pack and photocell in a self-contained, easy-to-install compact device
- Configure and test controls from an Android or Apple smart device via the Provolt Bluetooth Mobile App—reduces callbacks

What you will need (sold separately)

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Small Office—Single Zone
OSD10 0-10V Wall Switch Sensor

Meets the Following Requirements:

- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C408.3**
  - Functional Testing
- **Section C405.2.3**
  - Daylight Responsive Controls

Features:
- 0-10V Dimming and ON/OFF Control
- Vacancy or Occupancy Sensing
- Daylight Harvesting
- Plug Load Control

What you will need (sold separately)

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Small Office—Single Zone
Intellect™ Intelligent Fixture Control System

Meets the Following Requirements:

- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.3.1**
  - Daylight Zone Control
- **Section C408.3**
  - Functional Testing
- **Section C405.2.3**
  - Daylight Responsive Controls

Features:

- 0-10V Dimming Control
- Vacancy or Occupancy Sensing with Auto-OFF
- Partial-ON, Partial-OFF
- Multi-Zone Daylight Harvesting
- Decora® 1-, 2-, 4-, or 8-button Keypads
- Scene Control
- Demand Response
- Wireless Communication via Mesh Network

**FEATURED LEVITON IECC SOLUTION**

Intellect Intelligent Fixture Control System

- Easy energy savings out-of-the-box
- Controls integrated in fixtures—virtually any fixture can be Intellect-enabled
- Wirelessly configure, control, and monitor the Intellect system using the Intellect App designed for an Android or iOS smart phone
- Listed on the DesignLights Consortium (DLC) Qualified Product List (QPL) for Networked Lighting Control systems

What you will need (sold separately)  |  Quantity
--- | ---
Intellect-Enabled Fixture  | 1
Provided by others  |  
Intellect Keypad, 4-Button ZLDNK-04W  | 1
Lumina RF Load Control Module 73A00-3ZB  | 1
Marked “Controlled” Receptacles 16352-2PW  | 5

www.leviton.com/iecc
Small Office—Dual Zone
Intellect™ Intelligent Fixture Control System

Meets the Following Requirements:

- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.3.1**
  - Daylight Zone Control
- **Section C408.3**
  - Functional Testing
- **Section C405.2.3**
  - Daylight Responsive Controls

Features:

- 0-10V Dimming Control
- Vacancy or Occupancy Sensing with Auto-Off
- Partial-ON, Partial-OFF
- Multi-Zone Daylight Harvesting
- Decora® 1-, 2-, 4-, or 8-button Keypads
- Scene Control
- Demand Response
- Wireless Communication via Mesh Network

► FEATURED LEVITON IECC SOLUTION

Intellect Intelligent Fixture Control System

- Easy energy savings out-of-the-box
- Controls integrated in fixtures—virtually any fixture can be Intellect-enabled
- Wirelessly configure, control, and monitor the Intellect system using the Intellect App designed for an Android or iOS smart phone
- Listed on the DesignLights Consortium (DLC) Qualified Product List (QPL) for Networked Lighting Control systems

What you will need (sold separately) | Quantity
--- | ---
Intellect-Enabled Fixture Provided by others | 1
Intellect Keypad, 4-Button ZLDNK-04W | 1
Lumina RF Load Control Module 73A00-3ZB | 1
Marked “Controlled” Receptacles 16352-2PW | 5
Open Office
Intellect™ Intelligent Fixture Control System

Meets the Following Requirements:

- Section C405.2.2.2 - Interior Manual Lighting Controls
- Section C405.2.2.2 - Light Reduction Controls
- Section C405.2.2.1 - Automatic Time Switch Control
- Section C405.2.3.1 - Occupancy Sensors
- Section C405.2.3.1 - Daylight Zone Control
- Section C408.3 - Functional Testing
- Section C405.2.3 - Daylight Responsive Controls

Features:

- 0-10V Dimming Control
- Vacancy or Occupancy Sensing with Auto-OFF
- Partial-ON, Partial-OFF
- Multi-Zone Daylight Harvesting
- Decora® 1-, 2-, 4-, or 8-button Keypads
- Scene Control
- Demand Response
- Wireless Communication via Mesh Network

What you will need (sold separately) | Quantity
---|---
Intellect-Enabled Fixture Provided by others | 12
Intellect Keypad, 4-Button | 4
ZLDNK-04W
Lumina RF Load Control Module | 1
73A00-3ZB
Marked “Controlled” Receptacles | 5
16352-2PW

Intellect™ Intelligent Fixture Control System

- Easy energy savings out-of-the-box
- Controls integrated in fixtures—virtually any fixture can be Intellect-enabled
- Wirelessly configure, control, and monitor the Intellect system using the Intellect App designed for an Android or iOS smart phone
- Listed on the DesignLights Consortium (DLC) Qualified Product List (QPL) for Networked Lighting Control systems
Open Office with Cubicles
GreenMAX® DRC Room Control System

Meets the Following Requirements:

- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.2.1**
  - Automatic Time Switch Control
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.1.3**
  - Open Plan Office Control
- **Section C405.2.3.1**
  - Daylight Zone Control
- **Section C408.3**
  - Functional Testing
- **Section C405.2.3**
  - Daylight Responsive Controls
- **Section C405.2.6**
  - Exterior Lighting Control

Features:

- Occupancy/Vacancy Sensing
- Multi-Zone Daylight Harvesting
- Manual Control
- Scene Control
- Time Switch Control
- Partial-ON

► FEATURED LEVITON IECC SOLUTION
GreenMAX® DRC Room Control System

- Fully distributed room control system
- Room agnostic—each room operates independently of other rooms—not dependent on network processors or centralized controllers for operation
- Easy-to-specify, scalable—add and rearrange products to accommodate the evolving needs of any application, and re-zone/re-group and adjust settings with ease through the GreenMAX DRC App for smart devices

<table>
<thead>
<tr>
<th>What you will need (sold separately)</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>GreenMAX DRC Room Controller</td>
<td>1</td>
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<tr>
<td>DRC Smart Pack (DRC)</td>
<td>6</td>
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<tr>
<td>GreenMAX DRC Digital Sensor</td>
<td>4</td>
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<tr>
<td>GreenMAX DRC 4 Button Digital Switch</td>
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Conference Room
Dimensions® 4000 Lighting Control

Meets the Following Requirements:

- **Section C405.2.2.2** - Interior Manual Lighting Controls
- **Section C405.2.2.2** - Light Reduction Controls
- **Section C405.2.2.1** - Automatic Time Switch Control
- **Section C405.2.1** - Occupancy Sensors
- **Section C408.3** - Functional Testing

Features:

- 0-10V Continuous Dimming Control
- Multi-Level Dimming (Stepped) Control
- Vacancy or Occupancy Sensing with Auto-OFF
- Daylight Harvesting with Photocell
- Astronomical Time Clock
- Scheduling (Behavior Control)
- Demand Response

**FEATURED LEVITON IECC 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

What you will need (sold separately) Quantity

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Dimensions D4206 Multi-Zone Architectural Lighting Control System D4206-xLW</td>
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<tr>
<td>Ceiling Mount Multi-Tech Occupancy Sensor OSCxx-RxW</td>
<td>1</td>
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<tr>
<td>Power Extender PE300-D0W</td>
<td>1</td>
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</table>
Conference Room
Intellect™ Intelligent Fixture Control System

Meets the Following Requirements:

- **Section C405.2.2.2** - Interior Manual Lighting Controls
- **Section C405.2.2.2** - Light Reduction Controls
- **Section C405.2.2.1** - Automatic Time Switch Control
- **Section C405.2.1** - Occupancy Sensors
- **Section C408.3** - Functional Testing

Features:

- 0-10V Dimming Control
- Vacancy or Occupancy Sensing with Auto-OFF
- Partial-ON, Partial-OFF
- Multi-Zone Daylight Harvesting
- Decora® 1-, 2-, 4-, or 8-button Keypads
- Scene Control
- Demand Response
- Wireless Communication via Mesh Network

**FEATURED LEVITON IECC SOLUTION**

Intellect Intelligent Fixture Control System

- Easy energy savings out-of-the-box
- Controls integrated in fixtures—virtually any fixture can be Intellect-enabled
- Wirelessly configure, control, and monitor the Intellect system using the Intellect App designed for an Android or iOS smart phone
- Listed on the DesignLights Consortium (DLC) Qualified Product List (QPL) for Networked Lighting Control systems

What you will need (sold separately) | Quantity
--- | ---
Intellect-Enabled Fixture Provided by others | 7
Intellect Keypad, 8-Button ZLDNK-08W | 1
Lumina RF Load Control Module 73A00-3ZB | 1
Marked “Controlled” Receptacles 16352-2PW | 5
Classroom
Provolt™ Room Controller (PRC)

Meets the Following Requirements:

- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.2.1**
  - Automatic Time Switch Control
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.3.1**
  - Daylight Zone Control
- **Section C408.3**
  - Functional Testing
- **Section C405.2.3**
  - Daylight Responsive Controls

Features:

- 0-10V Dimming Control
- Self-Contained Occupancy Sensor, Photocell and Power Pack
- Vacancy or Occupancy Sensing with Auto-OFF
- Auto Calibration
- Daylighting Set Point Adjustment through Entry Station
- Emergency Input
- Decora® 4-Button Entry Station
- Plug Load Control
- Time Clock Input
- Demand Response
- Emergency Input
- Decora® 4-Button Entry Station
- Plug Load Control
- Time Clock Input
- Demand Response

What you will need (sold separately) Quantity

<table>
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<tr>
<th>Item</th>
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<tr>
<td>Provolt Room Controller (PRC)</td>
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<tr>
<td>Provolt Low-Voltage Keypad, 4-Button</td>
<td>2</td>
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<tr>
<td>PLVSW-4LW</td>
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<tr>
<td>Provolt Low-Voltage Keypad, 1-Button</td>
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<tr>
<td>PLVSW-1LW</td>
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<tr>
<td>16352-2PW</td>
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**FEATURED LEVITON IECC SOLUTION**

Provolt Room Controller (PRC)

- Comprehensive solution integrates multiple lighting control strategies—occupancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF and demand response.
- Combined line voltage multi-technology or PIR sensor, power pack and photocell in a self-contained, easy-to-install compact device.
- Configure and test controls from an Android or Apple smart device via the Provolt Bluetooth Mobile App—reduces callbacks.
Classroom
Integrated Room Control (IRC)

Meets the Following Requirements:
- **Section C405.2.2.2** - Interior Manual Lighting Controls
- **Section C405.2.2.3** - Light Reduction Controls
- **Section C405.2.2.1** - Automatic Time Switch Control
- **Section C405.2.1** - Occupancy Sensors
- **Section C405.2.3.1** - Daylight Zone Control
- **Section C408.3** - Functional Testing
- **Section C405.2.3** - Daylight Responsive Controls

Features:
- 0-10V Dimming Control
- Vacancy or Occupancy Sensing with Auto-OFF
- Auto Calibration
- Daylighting Set Point Adjustment through Entry Station
- Daylighting with Photocell
- Emergency Input
- Auto Calibration
- Emergency Input
- Decora 4-Button Entry Station
- HVAC and Emergency Interface
- Time Clock Input
- Demand Response

What you will need (sold separately)

| IRC Kit for 2 Zones, 2 Relays - includes IRC, sensor, photocell, and control station | RCD20-102 (RCD20-C02—347V) |
| IRC for 2 Zones, 2 Relays | M2D20-102 |
| Multi-Tech Ceiling Mount Occupancy Sensor | 1000SF, OSC10-M0W |
| Photocell, Indoor | ODC0P-00W |
| Lighting Control Station | RLYSw-4LW (+1 additional) |
| Low Voltage Switch | OOLYS-01W |
| OPP20 Super Duty Power Pack | OPP20-0D2 (OSP15-R30—347V) |

FEATURED LEVITON IECC SOLUTION

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 design
- Auto 100 hour burn-in
Classroom Retrofit
Intellect™ Intelligent Fixture Control System

Meets the Following Requirements:

- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.3.1**
  - Daylight Zone Control
- **Section C408.3**
  - Functional Testing
- **Section C405.2.3**
  - Daylight Responsive Controls

Features:

- 0-10V Dimming Control
- Vacancy or Occupancy Sensing with Auto-OFF
- Partial-ON, Partial-OFF
- Multi-Zone Daylight Harvesting
- Decora® 1-, 2-, 4-, or 8-button Keypads
- Scene Control
- Demand Response
- Wireless Communication via Mesh Network

**FEATURED LEVITON IECC SOLUTION**

Intellect Intelligent Fixture Control System

- Easy energy savings out-of-the-box
- Controls integrated in fixtures—virtually any fixture can be Intellect-enabled
- Wirelessly configure, control, and monitor the Intellect system using the Intellect App designed for an Android or iOS smart phone
- Listed on the DesignLights Consortium (DLC) Qualified Product List (QPL) for Networked Lighting Control systems

<table>
<thead>
<tr>
<th>Item Description</th>
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<tr>
<td>Intellect-Enabled Fixture Provided by others</td>
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<tr>
<td>Intellect Keypad, 8-Button ZLDNK-08W</td>
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<td>Lumina RF Load Control Module 73A00-32B</td>
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<td>Marked “Controlled” Receptacles 16352-2PW</td>
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What you will need (sold separately)

![Image of Intellect™ Intelligent Fixture Control System](image)
Common Area
Provolt™ Room Controller (PRC)

Meets the Following Requirements:

- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.2.1**
  - Automatic Time Switch Control
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.3.1**
  - Daylight Zone Control
- **Section C408.3**
  - Functional Testing
- **Section C405.2.3**
  - Daylight Responsive Controls

Features:

- 0-10V Dimming Control
- Self-Contained Occupancy Sensor, Photocell and Power Pack
- Vacancy or Occupancy Sensing with Auto-OFF
- Auto Calibration
- Daylighting Set Point Adjustment through Entry Station

![Provolt Room Controller (PRC) Diagram](image)

<table>
<thead>
<tr>
<th>What you will need (sold separately)</th>
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<tbody>
<tr>
<td>Provolt Room Controller (PRC) OSC044DW</td>
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<tr>
<td>Provolt Low-Voltage Keypad, 4-Button PLYSW-4LW</td>
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<tr>
<td>OPP20 Super Duty Power Pack OPP20-0D1</td>
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<tr>
<td>Marked “Controlled” Receptacles 16352-2PW</td>
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Common Area
Intellect™ Intelligent Fixture Control System

Meets the Following Requirements:
- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.2.1**
  - Automatic Time Switch Control
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.3.1**
  - Daylight Zone Control
- **Section C408.3**
  - Functional Testing
- **Section C405.2.3**
  - Daylight Responsive Controls

Features:
- 0-10V Dimming Control
- Vacancy or Occupancy Sensing with Auto-OFF
- Partial-ON, Partial-OFF
- Multi-Zone Daylight Harvesting
- Decora® 1-, 2-, 4-, or 8-button Keypads
- Scene Control
- Demand Response
- Wireless Communication via Mesh Network

What you will need (sold separately)

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>Intellect-Enabled Fixture Provided by others</td>
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<tr>
<td>Intellect Keypad, 4-Button ZLDNK-04W</td>
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<tr>
<td>Lumina RF Load Control Module 73A00-3ZB</td>
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<tr>
<td>Marked “Controlled” Receptacles 16352-2P-W</td>
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</table>

**FEATURED LEVITON IECC SOLUTION**

Intellect Intelligent Fixture Control System

- Easy energy savings out-of-the-box
- Controls integrated in fixtures—virtually any fixture can be Intellect-enabled
- Wirelessly configure, control, and monitor the Intellect system using the Intellect App designed for an Android or iOS smart phone
- Listed on the DesignLights Consortium (DLC) Qualified Product List (QPL) for Networked Lighting Control systems
Retail Space

Lumina™ Gateway Solutions

Meets the Following Requirements:

- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.2.1**
  - Automatic Time Switch Control
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.3**
  - Specific Application Controls
- **Section C408.3**
  - Functional Testing

Features:

- Relay Control
- Separate Control for Display Lighting
- Vacancy or Occupancy Sensing with Auto-OFF
- Architectural 0-10V Dimming Entry Station
- App-Based Configuration and Control
- Astronomical Time Clock
- Scheduling
- HVAC Management

**FEATURED LEVITON IECC SOLUTION**

Lumina™ Gateway Solutions

- Low cost wireless energy management solution for fast and simple installation at a fraction of a standard system’s cost
- Connect up to 40 Leviton wireless devices including sensors, light switches, thermostats and heavy-duty load control modules
- Automated control of loads and remote control via the Leviton Cloud Services App

What you will need (sold separately) | Quantity
--- | ---
Load Control Module 73A00-xZB | 2
Motion Sensor LURMD-00W | 2
Occupancy Sensor Z5Cxx-kxW | 4
Lumina RF 15A Plug In DL15A-1BW | 2
Lumina RF 0-10V Dimmer Z50557-00Z | 2
Track Light Limiting Panel Gxxxxx-xxx | 1
Lumina RF Wireless Thermostat RC-2000WHZB | 1
Lumina Gateway 74A00-1 | 1
Convenience Store
Lumina™ Gateway Solutions

Meets the Following Requirements:
- Section C405.2.2.2 - Interior Manual Lighting Controls
- Section C405.2.2.2 - Light Reduction Controls
- Section C405.2.2.1 - Automatic Time Switch Control
- Section C405.2.1 - Occupancy Sensors
- Section C405.2.3.1 - Daylight Zone Control
- Section C405.2.4 - Specific Application Controls
- Section C408.3 - Functional Testing

Features:
- Relay Control
- Separate Control for Display Lighting
- Vacancy or Occupancy Sensing with Auto-OFF
- Architectural 0-10V Dimming Entry Station
- App-Based Configuration and Control
- Astronomical Time Clock
- Scheduling
- HVAC Management
- HV AC Management

FEATURED LEVITON IECC SOLUTION

Lumina™ Gateway Solutions
- Low cost wireless energy management solution for fast and simple installation at a fraction of a standard system’s cost.
- Connect up to 40 Leviton wireless devices including sensors, light switches, thermostats and heavy-duty load control modules
- Automated control of loads and remote control via the Leviton Cloud Services App

What you will need (sold separately)

<table>
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<tr>
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<tr>
<td>Occupancy Sensor</td>
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<tr>
<td>Lumina RF 15A Plug In</td>
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<tr>
<td>Lumina RF 0-10V Dimmer</td>
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<tr>
<td>Lumina RF 15A Switch</td>
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</tr>
<tr>
<td>Provolt™ Line Voltage Photocell</td>
<td>1</td>
</tr>
<tr>
<td>Lumina RF Wireless Thermostat</td>
<td>1</td>
</tr>
<tr>
<td>Lumina Gateway</td>
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</tr>
</tbody>
</table>

www.leviton.com/iecc
Restaurant

Lumina™ Gateway Solutions

Meets the Following Requirements:

- **Section C405.2.2.2** - Interior Manual Lighting Controls
- **Section C405.2.2.2** - Light Reduction Controls
- **Section C405.2.2.1** - Automatic Time Switch Control
- **Section C405.2.1** - Occupancy Sensors
- **Section C405.2.4** - Specific Application Controls
- **Section C408.3** - Functional Testing
- **Section C405.2.3** - Daylight Responsive Controls

Features:

- Relay Control
- Separate Control for Display Lighting
- Vacancy or Occupancy Sensing with Auto-OFF
- Architectural 0-10V Dimming Entry Station
- Daylight Harvesting with Photocell
- App-Based Configuration and Control
- Astronomical Time Clock
- Scheduling

**FEATURED LEVITON IECC SOLUTION**

**Lumina™ RF Wireless Solutions**

- Low cost wireless energy management solution for fast and simple installation at a fraction of a standard system’s cost
- Connect up to 40 Leviton wireless devices including sensors, light switches, thermostats and heavy-duty load control modules
- Automated control of loads and remote control via the Leviton Cloud Services App

<table>
<thead>
<tr>
<th>What you will need (sold separately)</th>
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<tr>
<td>Load Control Module 73A00-xZB</td>
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<tr>
<td>Occupancy Sensor ZS057-IXW</td>
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<tr>
<td>Lumina RF 0-10V Dimmer ZS057-D0Z</td>
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<tr>
<td>Lumina RF 15A Switch DL15S-1BZ</td>
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<tr>
<td>Provolt™ Line Voltage Photocell PCCXD-00W</td>
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<tr>
<td>Track Light Limiting Panel Gxxxx-xxx</td>
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<td>Lumina Gateway 74A00-1</td>
<td>1</td>
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<tr>
<td>Marked &quot;Controlled&quot; Receptacles 16352-2PW</td>
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</table>
Warehouse
GreenMAX® Relay Control

Meets the Following Requirements:
- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.2.1**
  - Automatic Time Switch Control
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.3.1**
  - Daylight Zone Control
- **Section C408.3**
  - Functional Testing

Features:
- Relay Control
- Occupancy Sensing
- Daylight Harvesting
- Decora® 4 Button Entry Stations
- Software and Handheld Remote Programming
- Astronomical Time Clock
- Scheduling (Behavior Control)
- Demand Response
- HVAC and Emergency Interface
- Building Automation (BACnet)
- Fail-Safe Circuitry (NFPA Compliant)
- Partial-OFF

**FEATURED LEVITON IECC SOLUTION**
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

What you will need (sold separately) | Quantity
--- | ---
GreenMAX Relay Control System | 1
RLVSW-4LW | 2
OSFHD-xxW | 18
PCSKY-000 | 3
Warehouse
DRC Smart Packs

**Meets the Following Requirements:**
- **Section C405.2.2.2**
  - Interior Manual Lighting Controls
- **Section C405.2.2.2**
  - Light Reduction Controls
- **Section C405.2.2.1**
  - Automatic Time Switch Control
- **Section C405.2.1**
  - Occupancy Sensors
- **Section C405.2.3.1**
  - Daylight Zone Control
- **Section C408.3**
  - Functional Testing

**Features:**
- Relay Control
- Occupancy Sensing
- Daylight Harvesting
- Decora® 4 Button Entry Stations
- Software and Handheld Remote Programming
- Astronomical Time Clock
- Scheduling (Behavior Control)
- Demand Response
- HVAC and Emergency Interface
- Building Automation (BACnet)
- Fail-Safe Circuitry (NFPA Compliant)
- Partial-OFF

**FEATURED LEVITON IECC SOLUTION**

**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

---

**What you will need (sold separately)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>GreenMAX Relay Control System RxxTC-100</td>
<td>RPMxx-xxx</td>
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<tr>
<td>DRC Smart Pack (DRC) DRD07-ED0</td>
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<tr>
<td>Fixture Mount PIR High/Low Bay Dimming Occupancy Sensor HB011-PDX</td>
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<td>GreenMAX Digital Lighting Control Station, 8-Button RDGSW-8CW</td>
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Warehouse
HB011 0-10V PIR High Bay/Low Bay Occupancy Sensor

Meets the Following Requirements:

- Section C405.2.2.2
  - Interior Manual Lighting Controls
- Section C405.2.2.2
  - Light Reduction Controls
- Section C405.2.1
  - Occupancy Sensors
- Section C405.2.3.1
  - Daylight Zone Control
- Section C408.3
  - Functional Testing

Features:

- Occupancy Sensing
- Daylight Harvesting
- 0-10V LED Control
- Variable Time Delay
- False Detection Protection

**FEATURED LEVITON IECC SOLUTION**

HB011 0-10V PIR High Bay/Low Bay Occupancy Sensor

- Built-in photocell for convenient automatic daylight harvesting
- Set time delay—up to 30 minutes
- Includes high and low bay lenses to cover a variety of high ceiling applications
- Patented AutoCal™ for set-it and forget-it photocell calibration
- Suitable for use in standard and cold storage applications

<table>
<thead>
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<th>What you will need (sold separately)</th>
<th>Quantity</th>
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<tr>
<td>Fixture Mount 0-10V PIR High/Low Bay Occupancy Sensor</td>
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<tr>
<td>HB011-PDX</td>
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Parking Garage—Wash Down
HBE11 PIR 0-10V Dimming Wet Location Sensor

Meets the Following Requirements:

- Section C405.2.2.2 - Interior Manual Lighting Controls
- Section C405.2.2.2 - Light Reduction Controls
- Section C405.2.1 - Occupancy Sensors
- Section C405.2.6 - Exterior Lighting Control
- Section C408.3 - Functional Testing

Features:

- Occupancy Sensing
- Daylight Harvesting
- Indoor/Outdoor Applications
- Full OFF Timer Delay

What you will need (sold separately)

<table>
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<tr>
<th>What you will need</th>
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<td>PIR 0-10V Dimming Wet Location</td>
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<tr>
<td>Occupancy Sensor</td>
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<td>HBE11-IUB</td>
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Note: Combine IP65 vapor-sealed fixtures (supplied by others) and Leviton HBE11 high bay wet location sensors for complete wash down application safety.

HBE11 PIR 0-10V Dimming Wet Location Sensor

- Controls 0-10V dimmable ballasts for daylight harvesting applications
- Interchangeable high/low area detection lenses
- Impervious to dust and able to withstand water ingress
- IP65-rated
Site Lighting
Northstar™ Outdoor Lighting Controls

Meets the Following Requirements:
- **Section C405.2.6** - Exterior Lighting Control
- **Section C408.3** - Functional Testing

Features:
- Self-Healing Mesh Network
- 0-10V Dimming
- Wireless Commissioning
- Astronomical Time Clock
- Photocell Integration
- Advanced Control Sequences

What you will need (sold separately)

<table>
<thead>
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<th>Item</th>
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<tr>
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<td>Outdoor Photocell</td>
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**FEATURED LEVITON IECC SOLUTION**

NorthStar Outdoor Lighting Controls
- Wireless system with a self-healing mesh network
- Suitable for switching and 0-10V dimming load types
- Controlled by either a simple time clock, dusk-to-dawn photocell control or via customized control sequences
- Commission through the NorthStar Site Controller using any web browser and the Controller’s wifi access point
- Use the Leviton Provisioning App to identify and locate the fixture modules by simply scanning the QR code on each fixture module at the point of installation using the GPS feature on your tablet or smart device.
Leviton Solutions for IECC

Sensing Controls
- Broadest range of sensors for any application
- 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

Provolt™ Room Controller (PRC)
- Requires only two devices to be installed for high performance lighting controls—0-10V dimming, occupancy/vacancy sensing, partial-ON, partial-OFF, daylight harvesting and demand response
- Perform all testing, configuration and control from a smart device or tablet via the Provolt App
- Features customizable room templates for fast multi-room replication

Integrated Room Control (IRC)
- Combines 0-10V dimming, occupancy/vacancy sensing, partial-ON, partial-OFF, daylight harvesting and demand response capabilities in a stand-alone package
- Kitted with 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

Lumina™ Gateway Eco-System
- Uses the Lumina Gateway as an energy management coordinator
- Delivers wireless control for lighting, HVAC, window coverings and heavy duty loads
- Automated control of loads from a tablet or smartphone via the Lumina App

Lumina™ RF Standalone Room Controller System for Use with Zigbee-Enabled Lamps and Fixtures
- Convert to LED multi-zone controls with wireless controls and Zigbee-enabled lamps
- Multi-zone control, full range dimming, scene setting and manual control
- Programmable via any Bluetooth-enabled Android or iOS smart device using the Lumina RF Standalone App
- Listed on the DesignLights Consortium (DLC) Qualified Products List (QPL) for Networked Lighting Control systems
Intellect™ Intelligent Fixture Control System
- Code-compliant lighting controls within a fixture
- Easy system installation in just two steps with no expensive wiring or commissioning required
- Configure, monitor and control a space from an Android or iOS smart device via the Intellect Bluetooth® Mobile App
- Listed on the DesignLights Consortium (DLC) Qualified Products List (QPL) for Networked Lighting Control systems

Dimensions® D4000
- Offers both stand alone and integrated room dimming and control
- LED compatible with power extender
- Complete multi-event scheduler and integrated astronomical time clock

Sapphire™ Touch Screen Room Controller
- Delivers single control interface for lighting and AV control
- Provides 7-day rotating schedule, holiday exception calendar, special events calendar and astronomical clock
- Color tuning capabilities to mimic ambient lighting and follow user’s circadian rhythms

GreenMAX® DRC Room Control System
- Fully distributed room control system, with each room operating independently of others
- Fully configurable via the GreenMAX DRC App for Android or iOS smart devices
- Listed on the DesignLights Consortium (DLC) Qualified Products List for Networked Lighting Control systems (certification pending)

EZ-MAX® Plus Standalone Relay 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, 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

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 Handheld display Unit (HDU)
Leviton Solutions for IECC

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

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Marked “Controlled” Receptacles
- Meets requirements for identifying receptacles that will automatically be de-energized as part of an overall plug load control program
- 2014 and 2017 NEC requires all 15A and 20A, 125V receptacles that are automatically controlled to be marked with a specific symbol (§)
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 all has 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 an IECC expert provide training in person or online exclusively for your team
- **IECC App** - simplifies IECC lighting control requirements and provides examples for common applications - available for Android and Apple devices - download at [www.leviton.com/apps](http://www.leviton.com/apps)
- **IECC Web Portal** - access application diagrams and product solutions - visit [www.leviton.com/iecc](http://www.leviton.com/iecc)
- **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
- **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](http://www.leviton.com/ezlearn)
- 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