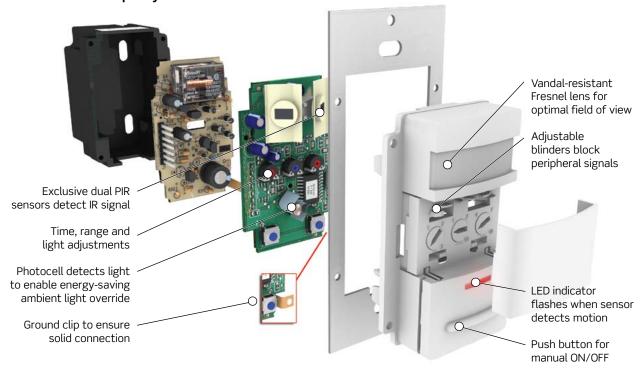


## **Occupancy/Vacancy Sensing Control**

Leviton offers a wide selection of occupancy and vacancy sensors for residential and commercial applications. From wall and ceiling mounted to wall switch and wireless, with passive infrared, ultrasonic or multi-technology sensing; Leviton sensors provide smart energy saving solutions for both indoor and outdoor use.

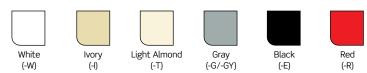
#### Wall-Switch Occupancy Sensor ODSIØ



## **Definition of Occupancy, Vacancy, Motion and Humidity Sensors**

Type of Sensor	Definition
Occupancy	A device with which the lights/load automatically turn ON when motion is detected within an area and automatically OFF after a designated period of time passes from the point the area was vacated.
Vacancy	A device with which the lights/load must be manually turned ON but will automatically turn OFF after a designated period of time passes from the point the area was vacated.
Motion	An occupancy sensor used for exterior areas.
Humidity	Detects excess humidity in a room and activates the ventilation fan to lesson condensation, will automatically turn OFF the fan when the humidity level has dropped.

Color Choices Occupancy Sensing control devices are offered in a wide range of colors. To order colors, add suffix to Cat. No.



Note: Not all models come in all colors. Color Change Kits available for specific devices. See listings for details



## **Smart Wallbox Sensors**

Smart Wallbox Sensors combine occupancy/vacancy sensing with 0-10V dimming or ON/OFF switching control to deliver a simple solution for easy energy savings, local control and code compliance. Enable and configure additional features with the Smart Sensor App.

#### **Features and Benefits**

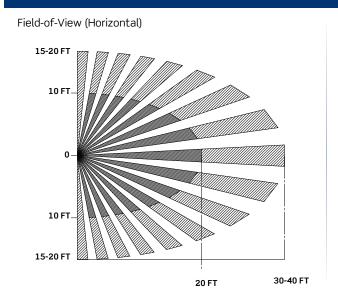
- Integrates occupancy/vacancy sensing and 0-10V dimming (ODD10-IDx/ODD24-IDW) or ON/OFF switching (ODS15-IDx/ODS15-I1x)
- Easy programming and configuration Out-of-the-box default mode for auto-ON/auto-OFF operation with a 10-minute timeout as well as convenient pushbutton programming for common applications
- App programmable for easy advanced configuration using the Smart Sensor App:
  - Select the operating mode (occupancy/vacancy)
  - Adjust sensor sensitivity and timeouts
  - Enable the integrated photocell for daylighting hold-OFF
  - Activate the nightlight feature with a wide selection of RGB colors
  - Customize the LED indicator and locator lights
  - Name sensors within the App to distinguish individual spaces
  - Create a security code to lock configuration settings
  - For dimming models, set partial-ON / partial-OFF levels and partial-OFF timeouts
- Can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 occupancy/vacancy sensing and dimming (ODD10/ODD24) or manual control (ODS15) requirements

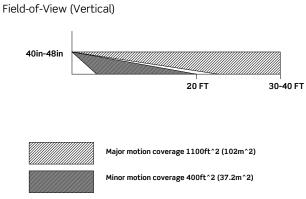
Smart Wallbox Sensor	rs			
Description	Coverage	Rating	Cat. No.	Color*
Smart <b>PIR</b> 0-10V Dimming Wallbox Sensor	180°, 1100SF (102SM)	120VAC, 60HzGeneral Purpose @ 120V: 10A General Purpose @ 277V: 10A LED/Electronic Ballast @ 120V: 8A LED/Electronic Ballast @ 277V: 5A Standard Ballast @ 120V, 277V: 10A Tungsten @ 120V, 277V: 6.67A Motor @ 120V: 1/4HP (FLA 5.8A) Motor @ 277V: 1/3HP (FLA 3.0)	ODD10-ID	W, I
Smart <b>PIR</b> 24V Dimming Wallbox Sensor		12-24VDC	ODD24-ID	W
Smart <b>PIR</b> Wall Switch Sensor		General Purpose @ 120V, 277V: 20A LED/Electronic Ballast @ 120V, 277V: 10A Standard Ballast @ 120V, 277V: 10A Tungsten @ 120V, 277V: 6.67A Motor @ 120V: 1/4HP (FLA 5.8A)	ODS15-ID	W, I
Smart <b>PIR</b> Wall Switch Sensor		Motor @ 277V: 1/3HP (FLA 3.0)  General Purpose @ 120V: 20A  LED/Electronic Ballast @ 120V: 10A  Standard Ballast @ 120V: 10A  Tungsten @ 120V: 6.67A  Motor @ 120V: 1/4HP (FLA 5.8A)	ODS15-I1	W, I

\*Color Change Kits available for Black, Red, Gray, Light Almond, Ivory and White. Leviton sensors meet the following applicable agency listings: UL, cUL, FCC, and ICC. See product data sheets for specific listings



## Field of View for Smart Wallbox Sensors







## Decora® Wall Switch Occupancy, Vacancy and Humidity Sensors

The residential offering is a selection of sensors. These sensors combine state-of-the-art technology with a sleek look to provide optimal management of lighting and motor loads and a choice of either Manual-ON (Vacancy Sensor) or Automatic-ON (Occupancy Sensor) switching. The Humidity Sensor and Fan Control detects excess humidity and automatically activates the ventilation fan.

#### **Features and Benefits**

- Available in Automatic-ON or Manual-ON models
- Provides 180° Field of View, 900 sq. ft. coverage
- Adjustable delayed OFF time can be set for 30 seconds, 5 minutes, 15 minutes or 30 minutes
- Adjustable ambient light sensor prevents Auto ON when there is ample natural sunlight
- No neutral required (except IPS15/IPV15 models)
- Can be used to comply with 2019 California Title 24, Part 6, Vacancy Control Device Requirements
- Occupancy sensors can be adjusted so they function as vacancy sensors
- Screw terminals for easier installation
- Compatible with Decora Plus™ screwless wallplates and Decora® wallplates
- Packaged with three colors in one box: White, Ivory and Light Almond

#### Dimming Sensor — IPSD6/IPVD6

- Single pole or 3-way when used with a 3-way switch
- For use with dimmable LED/CFL and incandescent loads

#### Relay Sensor — IPS02/IPV02, IPS05/IPV05

- Single pole only
- For use with LED, CFL, incandescent, fluorescent and motor loads

#### Relay Sensor — IPS06

- Single pole or 3-way when used with a 3-way switch
- For use with incandescent and LED loads

#### Relay Sensor — IPS15/IPV15

- Single pole or 3-way when used with IPVOR sensor remote or with VPOSR switch remote
- For use with LED. CFL, incandescent, fluorescent ballast or motor loads. 1800W max load

#### Sensor Remote — IPVOR

- For use in 3-way applications with the IPS15 or IPV15 sensor
- 180°, 900 sq. ft. coverage

Decora® Residential Grade Wall Switch Infrared Occupancy and Vacancy Sensors 🕕 🚱						
Description	Cat. No.	Color	Rating			
Relay Vacancy Sensor, single pole, 180° Field of View, 900 sq. ft. coverage	IPV02-1L	W, T	150W LED/CFL, 1/6 HP Motor 300W Incandescent/FL Ballast			
Relay Occupancy Sensor, single pole, 180° Field of View, 900 sq. ft. coverage	IPS02-1L	W, I, T, G, B, E				
Relay Vacancy Sensor, single pole, 180° Field of View, 900 sq. ft. coverage	IPV05-1L	Z	150W LED/CFL, 1/6 HP Motor 600W Incandescent/FL Ballast			
Relay Occupancy Sensor, single pole, 180° Field of View, 900 sq. ft. coverage	IPS05-1L	Z				
Occupancy Sensor, single pole or 3-Way, 180° Field of View, 900 sq. ft. coverage	IPS06-1L	W	150W LED 600W Incandescent/Halogen			
Dimming Vacancy Sensor, single pole or 3-Way, 180° Field of View, 900 sq. ft. coverage	IPVD6-1L	Z	150W LED/CFL 600W Incandescent			
Dimming Occupancy Sensor, single pole or 3-Way, 180° Field of View, 900 sq. ft. coverage	IPSD6-1L	Z				
Relay Vacancy Sensor, single pole or 3-Way*, 180° Field of View, 900 sq. ft. coverage, neutral required	IPV15-1L	Z	600W LED/CFL 1800W Incandescent 1800VA Fluorescent Ballast, 1/2 HP			
Relay Occupancy Sensor, single pole or 3-Way, 180° Field of View, 900 sq. ft. coverage, neutral required	IPS15-1L	Z				
Sensor Remote, 120VAC, Manual-ON, Auto-OFF for use with IPS15 or IPV15 Sensor	IPVOR-1L	Z	No Load Rating			





IPSD6-11

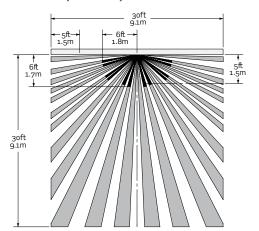
\*When used with VPOSR or IPVOR remotes

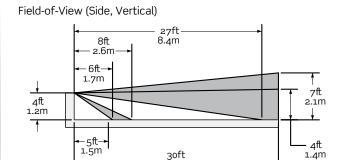
For more information visit www.leviton.com/sensors



## Field of View for Decora® Residential Wall Switch Infrared Occupancy and Vacancy Sensors

#### Field-of-View (Horizontal)





ğ.1m

### **Decora® Residential Grade Wall Switch Humidity Sensor and Fan Control**

#### **Features and Benefits**

- Replaces a single pole switch for control of a ventilation fan or a fan/light combination
- Automatically detects rising humidity and activates a ventilation or exhaust fan in a bathroom
- Manual ON option to address immediate ventilation needs
- Neutral wire is required for operation
- Microprocessor control with digital sensing technology
- Can be used to comply with the requirements of 2019 California Title 24, Part 6, Indoor Air Quality and Mechanical Ventilation

- Can be used to comply with the requirements of 2019 CALGREEN, Part II, Indoor Air Quality and Exhaust
- Meets the requirements of ASHRAE 62.2
- Air Cycle mode for continuous operation with hourly pre-set time outs
- Green LED functions as a status indicator
- Compatible with Incandescent, LED, CFL and Fluorescent lighting loads
- Use with existing or new ventilation fans up to 1/6 HP, 3 Amp
- Compatible with Decora Plus™ screwless wallplates and Decora® wallplates

Decora® Residential Grade Wall Switch Humidity Sensor and Fan Control 🖫 😘					
Description	Cat. No.	Color	Rating		
Humidity Sensor & Fan Control	IPHS5-1L	W, I,T	150W LED/CFL 600W Incandescent 400VA MLV/Fluorescent 1/6 HP (3A) Fan		



IPHS5-W

## Color Change Kits for Sensors

Color Change Kits 🖫 🚱		
Description	Cat. No.	Color
Color Change Kits for Sensors, No Fan Icon	IPDKT-00	W, I, T, E, B

#### Color

To order colors, add suffix to catalog number as follows: Z includes White (-W), Ivory (-I) and Light Almond (-T). Color Change Kits available in the following colors: White (-W), Ivory (-I), Light Almond (-T), Gray (-G), Black (-E) and Brown (-B).



## Sensing Control Decora® Wall Switch Infrared | Commercial

## **Decora® Commercial Wall Switch Infrared Occupancy and Vacancy Sensors**

#### **Features and Benefits**

#### All ODS Wall Switch Sensors

- Leviton wall switch sensors are designed for operation in a variety of voltages, reducing the need for additional SKUs
- Photocell with ambient light override prevents these devices from switching lights ON when there is ample natural sunlight
- Push-button manual override is used to turn lights ON at any time, regardless of the override setting
- 180° field of view, 2100 sq. ft. of coverage
- One unit can be used for 120V or 277VAC 60Hz LED, incandescent, low voltage and fluorescent lighting with either magnetic or electronic ballasts, and motor loads
- Exclusive dual PIR sensors
- Patented adjustable blinders
- Vandal-resistant Fresnel lens
- Fits in standard wallbox; gangable
- Elegant Decora® wallplate
- Vacancy sensors feature auto-OFF switching on vacancy after manual-ON switch and Can be used to comply with IECC, ASHRAE 90.1, NYC L48, 2019 Title 24, Part 6 occupancy sensing requirements
- Auto-ON/Auto-OFF only sensors prevent an occupant from being able to turn the lights OFF
- Lev-Lok® sensors combine the energy savings of wall switch sensors and time saving Lev-Lok® wiring technology
- Backed by a limited 5-year warranty

#### **ODS10-ID PIR Occupancy Sensor**

- For use in enclosed offices, storage rooms, copier rooms and closets
- Delayed-OFF time settings: 10, 20 and 30 minutes with 30 second test mode

#### **ODS06-ID PIR Occupancy Sensor**

- For use in small offices, conference rooms and lounges
- Delayed -OFF time settings: 10, 20 and 30 minutes with 30 second test mode

#### **Dual-Relay PIR Occupancy Sensors**

- Ideal for classrooms, multimedia and conference rooms, day care centers, offices, and lounges
- Exclusive automatic "walk-through" sensing
- Provides automatic switching for 2 separate banks of LED, fluorescent, incandescent or low-voltage lighting from a single unit
- Delayed-OFF time interval (10, 20 and 30 minutes) compensates for real-time occupancy patterns, preventing unnecessary ON/OFF switching with 30 second test mode
- Backed by a limited 5-year warranty

## **Decora® Commercial Wall Switch Infrared Occupancy and Vacancy Sensors**

Commercial Grade Decora® Wall Switch Infrared Occupancy and Vacancy Sensors* 🕦 🚱					
Description	Cat. No.	Color	Rating	Coverage	
Decora® Wall Switch PIR Occupancy Sensor	ODS06-ID	W, I	Incandescent: 600W @ 120V.	180°,	
Decora® Wall Switch PIR Occupancy Sensor	ODS06-IN		LED Fluorescent: 800VA @ 120V, 1500VA @ 277V. 50/60Hz. Motor: 1/4 HP @ 120V	2100SF	
Decora® Wall Switch PIR Occupancy Sensor 347V Only Model	ODS10-I3	W	Incandescent: 3470W @ 347V. LED Fluorescent: 3470W @ 347V. 50/60/Hz. Motor: 1/4HP @ 347V		
Decora® Wall Switch PIR Occupancy Sensor	ODS10-ID	W, I, T, G, E, R	Incandescent: 800W @ 120V. LED Fluorescent: 1200VA @ 120V, 2700VA @ 277V.		
Decora® Wall Switch PIR — Lev-Lok® Model	MDS10-I**	W, I, T, G, E	For 60Hz AC only. Motor: 1/4HP @ 120V		
Decora® Dual-Relay Wall Switch PIR Occupancy Sensor with Self-Adaptive Technology Default setting = Conference Room Mode*** Alternate setting = Classroom mode****	ODS0D-ID	W, I, T, G, E, R	Primary Relay — LED Fluorescent: 1200VA @ 120V, 2700VA @ 277V. Incandescent: 800W @ 120V. Secondary Relay — LED Fluorescent: 800VA @ 120V, 1200VA @ 277V. Incandescent: 800W @ 120V. 50/60Hz		
Protective Cage for Wall Switch Sensors	OSWWG-POW	W	_	_	

<sup>\*</sup>Consult with factory for 208, 220, 230, and 240V models.

Note: Leviton sensors meet the following applicable agency listings: UL, CULus, ETL, CSA and NOM. See product data sheets for specific listings



ODS06-INW/ODS06-IDW ODS10-IDW



ODS0D-IDW

Lev-Lok® Occupancy Sensor Modules, 20A, 347V	<b>® ®</b> ∘	
Description	Cat. No.	Color
Stranded	MSPSW-XST	Yellow
Solid	MSPSW-XSD	Yellow

<sup>\*\*</sup>For Lev-Lok® wiring modules see ordering information below.

<sup>\*\*\*</sup>In Conference Room Mode, both primary and secondary relays respond to ambient light override.
\*\*\*\*In Classroom Mode, primary relay responds only to ambient light override.

Sensing Control



## Decora® Wall Switch Multi-Technology | Commercial

### Decora® Commercial Wall Switch Multi-Technology Occupancy and Vacancy Sensors

Convenient switch and occupancy sensor combo in a sleek Decora® unit. Advanced passive infrared technology provides highly accurate monitoring in a variety of commercial applications. The OSSMD and OSSMT combine passive infrared and ultrasonic technologies to provide maximum sensitivity with immunity to false triggering.

#### **Features and Benefits**

· Leviton Wall Switch Sensors are designed for operation in a variety of voltages, reducing the need for additional SKUs

#### OSSMT-MD, OSSMT-GD, OSSMD-MD, OSSMD-GD

- OSSMT ideal for private and executive offices, conference rooms, storage areas, restrooms, classrooms, lounges, and training areas, or areas where minor motion is likely to occur
- OSSMD ideal for bi-level offices, partitioned areas and restrooms or other areas where minor motion is likely to occur
- Photocell with ambient light override prevents lights from turning on when there is ample natural light
- Manual override turns lights on at any time regardless of override setting
- Exclusive automatic "walk-through" sensing increases energy savings by shutting lights OFF within 2 1/2 minutes after momentary occupancy
- Manual delayed-off-time settings (10, 20, and 30 minutes) compensate for real-time occupancy patterns, preventing unnecessary ON/OFF switching — with 30 second test mode
- Single-pole and 3-way wiring
- Adjustable integral blinders with 180° to 32° field-of-view
- Can be used to comply with 2019 Title 24, Part 6 Manual ON/Auto OFF requirements
- Backed by a limited 5-year warranty

Commercial Grade Decora® Wall Switch Multi-Technology (PIR & US) Occupancy and Vacancy Sensors* 🖫 (							
Description	Cat. No.	Color	Rating	Coverage			
Decora® Wall Switch Multi-Technology	OSSMT-MD	W, I, T,	Incandescent/Tungsten: 800W @ 120V.	180°,			
Occupancy Sensor with Self-Adaptive Technolo	gy	G, E, R	LED Fluorescent: 1200VA @ 120V, 2700VA @ 277V.	2400SF			
			Motor: 1/4HP @ 120V				
Decora® Wall Switch Multi-Technology with	OSSMT-M3	W	Incandescent/Tungsten: 800W @ 120V.				
Self-Adaptive Technology — 347V Only Model			LED Fluorescent: 1200VA @ 120V,				
			2700VA @ 277V, 1500VA @347V.				
			Motor: 1/4HP @ 120V				
Decora® Wall Switch Multi-Technology Occupancy OSSMT-GD		W, I, T,	Incandescent/Tungsten: 800W @ 120V.				
Sensor. No neutral wire required for installation		G, E	LED Fluorescent: 1200VA @ 120V, 2700VA @ 277V.				
Decora® Wall Switch Multi-Technology	MSSMT-GD**	W, I, T,	Motor: 1/4HP @ 120V, 50/60 Hz				
with No Neutral —Lev-Lok® Model**		G, E					

<sup>\*</sup>Consult with factory for 208, 220, 230, and 240V models.

\*\*For Lev-Lok® Occupancy Sensor wiring modules see ordering information on page L-8.

Note: Leviton sensors meet the following applicable agency listings: UL, cULus, ETL, CSA and

NOM. See product data sheets for specific listings

## **Decora® Commercial Wall Switch Multi-Technology Occupancy and Vacancy Sensors**

Commercial Grade Decora® Wall Switch Multi-Technology (PIR & US) Occupancy and Vacancy Sensors* 🕕 🚳					
Description Cat. No.	Color	Rating	Coverage		
Decora® Dual-Relay Wall Switch Multi-Technology OSSMD-MD	W, I	Primary Relay —	180°,		
Self-Adaptive Technology		LED Fluorescent 1200VA @ 120V, 2700VA @ 277V.	2400SF		
Decora® Dual-Relay Wall Switch Multi-Technology OSSMD-GD	W, I	Incandescent: 800W @ 120V.			
Occupancy Sensor. No neutral wire required		Secondary Relay —			
for installation		LED Fluorescent: 800VA @ 120V, 1200VA @ 277V.			
		Incandescent: 800W @ 120V.			
		Motor: 1/4HP @ 120V, 50/60 Hz			
Protective Cage for Wall Switch Sensors OSWWG-POW	W	_	_		

<sup>\*</sup>Consult with factory for 208, 220, 230, and 240V models.

<sup>\*\*</sup>For Lev-Lok® Occupancy Sensor wiring modules see ordering information on page L-8



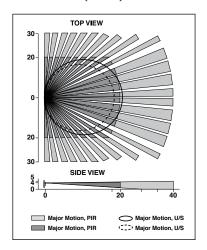
OSSMT-MDT/OSSMT-GDT



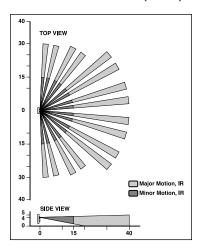
OSSMD-MDW/OSSMD-GDW

## Field of View for Commercial Grade Decora® Wall Switch Sensors

#### OSSMD/OSSMT (in feet)



#### ODSXX-ID/OSSXX-ID/ODSOD (in feet)



Sensing Control



## Programmable Indoor Digital Timer | Commercial

### **Commercial Programmable Indoor Digital Timer**

The TS300 provides energy saving control of indoor incandescent and fluorescent lighting as well as motor loads such as fans and circulating pumps. The TS300 uses timed override features to allow lights and HVAC to remain ON for a specified amount of time to accommodate after-hours crews. The aesthetically pleasing timer is easy to install and can replace any wall switch.

#### **Features and Benefits**

- Wallplate locks access to dip switches for tamper resistance
- Backlit LED
- Optional audible blink warning
- No minimum load requirement
- Adjustable time delay and sensitivity

- Dual 120/277 VAC operation
- Can be used to comply with IECC, ASHRAE 90.1, 2019 Title 24, Part 6 occupancy sensing requirements
- UL and cUL listed

Programmable Digital Timer						
Description	Cat. No.	Color	Rating			
Programmable Digital Indoor Timer, wallplate included	TS300-0DW	W	120VAC, 15A Resistive, 10A Ballast, 1200W LED lamp driver, 8A Tungsten, 1/4 HP Motor, 360VA Pilot duty 277VAC, 15A Resistive, 10A Ballast			



TS300



# Provolt™ Self-Contained Sensors — Daylight Harvesting Capable Models

The Leviton Provolt™ series of occupancy and vacancy sensors simplifies advanced lighting controls by integrating several control strategies into a compact, self-contained and easy-to-install device. The integrated design alleviates the need for separate power pack, occupancy/vacancy sensor and photocell wiring, making it a low-cost and efficient energy management solution for new construction and retrofits. For true Daylight Harvesting applications, integrated photocells provide consistent Daylight Design Levels by actively switching the connected load(s) ON and OFF in response to available natural light to maximize energy savings.

#### **Features and Benefits**

- Includes occupancy/vacancy sensing, daylight harvesting, and manual-ON/auto-OFF override control in a single unit
- Provides additional energy savings with Ambient Light Override
  - Occupancy/vacancy sensor models include an angled light pipe and flat light pipe for open loop and closed loop daylight harvesting applications
  - Auto-Calibration photocell intelligently measures light levels to determine optimal daylight design levels for closed loop applications and provides ambient light override capability
- Switching Control Designed for LED Drivers
- Models include single or dual relay
- Dual relay modes include: auto-ON/auto-OFF, manual ON/auto-OFF, auto-ON/manual-ON, fan control, stairwell control, step dimming — alternating daylighting levels, step dimming — load 1 primary
- Auto-adapting time delay and sensitivity are continually adjusted to room occupancy pattern
- Output short circuit protection protection against low voltage wiring errors
- BMS input/emergency override

- Industry-exclusive self-configuring local manual switch input supports momentary and maintained switches no special control stations required
- Industry-exclusive "fail-safe" circuitry assures lights ON to meet life safety requirements
- Industry-exclusive High Inrush Stability (H.I.S.) technology for unmatched durability and service
- Mechanically held 10A latching relay provides dependability and robust performance for all load types
- Zero-crossing circuitry for extended life of the relay
- · Simplified commissioning
- Visual LED status indicators
- Easily replaceable lenses are color-coded for contractors and end-users to identify from the ground:
- Integrated photocell tested to less than 1fc accuracy
- Tested to exceed 2 million switching cycles under standard loads
- Passed rigorous NEMA 410 testing for electronic ballast rating
- Can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 requirements for occupancy/vacancy sensing, UL 773A (Occupancy Standard), UL 924 (Emergency Equipment), cUL Listed, CE, NOM Certified, RoHS, and NY LLC48 Compliant

Provolt™ Self-Contained Ceiling Mount Occupancy Sensors — Daylight Harvesting Capable ۚ ਿ 🖫 😘						
Description	Cat. No.	Coverage	Color	Input Voltage, Rating		
Provolt™ Line Voltage Ceiling Mount PIR Occupancy Sensor w/Integrated Photocell, High-Density Lens installed, Mid-Range Lens included	ODC04-IDW	450SF	W	120V, 50/60Hz 8A, Electronic Ballast, 800W/VA, Tungsten Ballast, 1/4 HP Motor		
Provolt™ Line Voltage Ceiling Mount PIR Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed, Mid-Range Lens included	ODC15-IDW	1500SF	W	230V, 50Hz 6A/6AX, Electronic Ballast, Magnetic Ballast, 1200W/VA, 1/3 HP Motor		
Provolt™ Line Voltage Ceiling Mount U/S Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed	ODC05-UDW	500SF	W	120V, 50/60Hz 8A Electronic Ballast, 800W/VA, Tungsten Ballast, Mid-Range Lens included, 1/4 HP Motor		



Room Control Provolt™ | Commercial

Continued from previous page

## **Provolt™ Self-Contained Sensors — Daylight Harvesting Capable Models**

Provolt™ Self-Contained Ceiling Mount Occupancy Sensors — Daylight Harvesting Capable ۚ ⑤ ⑤					
Description	Cat. No.	Coverage	Color	Input Voltage, Rating	
Provolt™ Line Voltage Ceiling Mount U/S Occupancy Sensor w/ Integrated Photocell, Extended Range Lens installed	ODC10-UDW	1000SF	W	230V, 50Hz 6A/6AX, Electronic Ballast, 1200VA, 1/3 HP Motor	
Provolt™ Line Voltage Ceiling Mount U/S Occupancy Sensor w/ Integrated Photocell, Extended Range Lens installed	ODC20-UDW	2000SF		277V, 50/60Hz 5A, Electronic Ballast, 1200W/VA, Tungsten Ballast,	
Provolt™ Line Voltage Ceiling Mount Multi-Technology Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed	ODC05-MDW	500SF		1/3 HP Motor 230V, 50Hz	
Provolt™ Line Voltage Ceiling Mount Multi-Technology Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed, Mid-Range Lens included	ODC10-MDW	1000SF		6A/6AX, Electronic Ballast, Magnetic Ballast, 1200W/VA, 1/3 HP Motor	
Provolt™ Line Voltage Ceiling Mount Multi-Technology Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed, Mid-Range Lens included	ODC20-MDW	2000SF		277V, 50/60Hz 5A, Electronic Ballast, 1200VA, 1/3 HP Motor	

Provolt™ Dual Relay Self-Contained Ceiling Mount Occupancy Sensors — Daylight Harvesting Capable ④ ⑤。					
Description	Cat. No.	Coverage	Color	Input Voltage, Rating	
Provolt™ Line Voltage Ceiling Mount PIR Dual Relay Occupancy Sensor w/Integrated Photocell, High-Density Lens installed, Mid-Range Included	02C04-IDW	450SF	W	120V, 50/60Hz 8A, Electronic Ballast, 800W/VA, Tungsten Ballast,	
Provolt™ Line Voltage Ceiling Mount PIR Dual Relay Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed, Mid-Range included	02C15-IDW	1500SF		1/4 HP Motor 230V, 50Hz	
Provolt™ Line Voltage Ceiling Mount U/S Dual Relay Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed	02C05-UDW	500SF		6A/6AX, Electronic Ballast, Magnetic Ballast, 1200W/VA, 1/3 HP Motor	
Provolt™ Line Voltage Ceiling Mount U/S Dual Relay Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed	02C10-UDW	1000SF		277V, 50/60Hz 5A, Electronic Ballast,	
Provolt™ Line Voltage Ceiling Mount U/S Dual Relay Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed	02C20-UDW	2000SF		1200VA, 1/3 HP Motor	
Provolt™ Line Voltage Ceiling Mount Multi-Technology Dual Relay Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed	02C05-MDW	500SF			
Provolt™ Line Voltage Ceiling Mount Multi-Technology Dual Relay Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed, Mid-Range included	02C10-MDW	1000SF			
Provolt™ Line Voltage Ceiling Mount Multi-Technology Dual Relay Occupancy Sensor w/Integrated Photocell, Extended Range Lens installed, Mid-Range included	O2C20-MDW	2000SF			

Provolt™ Self-Contained Ceiling Mount Vacancy Sensors ④ ⑤						
Description	Cat. No.	Coverage	Color	Input Voltage, Rating		
Provolt™ Line Voltage Ceiling Mount PIR Vacancy Sensor	O3C15-IDW	1500SF	W	120V, 50/60Hz 8A, Electronic Ballast, 800W/VA, Tungsten Ballast,		
Provolt™ Line Voltage Ceiling Mount Multi-Technology Vacancy Sensor	03C10-MDW	1000SF		1/4 HP Motor  230V, 50Hz		
Provolt™ Line Voltage Ceiling Mount Multi-Technology Vacancy Sensor	O3C20-MDW	2000SF		6A/6AX, Electronic Ballast, Magnetic Ballast, 1200W/VA, 1/3 HP Motor		
		_		277V, 50/60Hz 5A, Electronic Ballast, 1200V 1/3 HP Motor		

Provolt™ Self-Contained Ceiling Mount Vacancy Sensors (1) (1)						
Description	Cat. No.	Coverage	Color	Input Voltage, Rating		
Provolt™ Line Voltage Ceiling Mount PIR Dual Relay Vacancy Sensor	O4C15-IDW	1500SF	W	120V, 50/60Hz 8A, Electronic Ballast, 800W/VA, Tungsten Ballast,		
Provolt™ Line Voltage Ceiling Mount Multi-Technology Dual Relay Vacancy Sensor	O4C10-MDW	1000SF		1/4 HP Motor 230V, 50Hz		
Provolt™ Line Voltage Ceiling Mount Multi-Technology Dual Relay Vacancy Sensor	O4C20-MDW	2000SF		6A/6AX, Electronic Ballast, Magnetic Ballast, 1200W/VA, 1/3 HP Motor		
				277V, 50/60Hz 5A, Electronic Ballast, 1200V 1/3 HP Motor		

#### ODC20-MDW



## ODC20-MDW (top view)



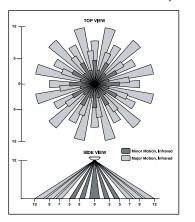
#### O3C20-MDW



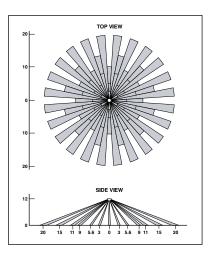


## Field of View for Provolt™ Self-Contained Ceiling Mount Sensors

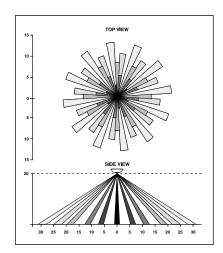
#### Provolt™ Series Infrared Sensors (in feet)



ODC04-IDW (High Density: Blue Lens), O2C04-IDW

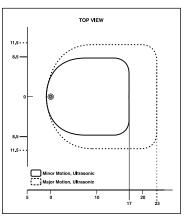


ODC15-IDW, O3C15-IDW, O2C15-IDW (Extended Range: Black Lens), O4C15-IDW

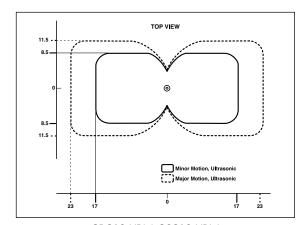


Mid-Range Lens — Mounting up to 20 feet (Included with all PIR and Multi-Tech Models)

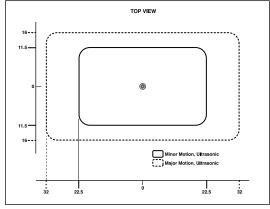
#### Provolt™ Series Ultrasonic Sensors (in feet)



ODC05-UDW, O2C05-UDW



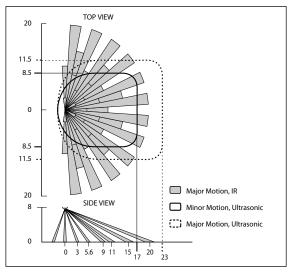
ODC10-UDW, O2C10-UDW



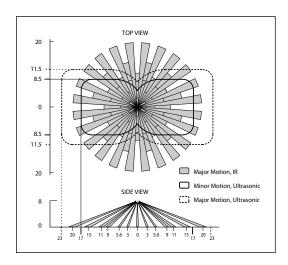
ODC20-UDW, O2C20-UDW

## Field of View for Provolt™ Self-Contained Ceiling Mount Sensors

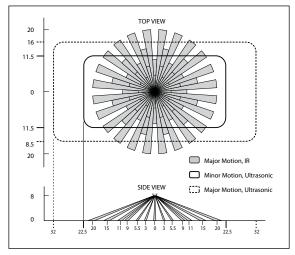
Provolt™ Series Multi-Technology Sensors (in feet)



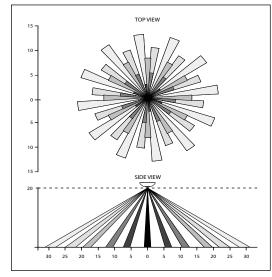
ODC05-MDW (High Density: Blue Lens), O2C05-MDW



ODC10-MDW, O3C10-MDW, O2C10-MDW (Extended Range: Black Lens), O4C10-MDW



ODC20-MDW, O3C20-MDW, O2C20-MDW, O4C20-MDW



Multi-Range Lens — Mounting up to 20 feet (Included with all PIR and Multi-Tech Models)

#### **SPOTLIGHT**

**Dollars & Sensors** 

Get a quick, accurate payback analysis on your occupancy sensors investment. Dollars & Sensors® will do for you in minutes what it takes other programs to complete in a week. Stop wasting time and energy and let Leviton's Dollars & Sensors® program do the analysis for you. For more information go to www.leviton.com/dollarsandsensors.





## Sensing Control Line Voltage Ceiling Mount | Commercial

## Line Voltage Occupancy/Vacancy Sensors

## **Self-Contained Infrared Ceiling Mount Occupancy Sensors**

PIR Occupancy Sensor with built-in relay — separate Power Pack not required.

#### **Features and Benefits**

- Sensor and switching relay combined in a single, self-contained unit no control unit (power pack) required
- Switching control of LED drivers
- · Ambient light override option prevents lights from turning on when there is ample natural light
- ODC and ODW Power Base Combo Sensors combine sensors with the OPB15 Power Base Adapter to convert low voltage sensors into self-contained line voltage sensors for immediate energy savings
- Adjustable delayed-OFF-time settings from 20 seconds (for test mode) to 15 minutes
- Small, unobtrusive self-contained unit

#### **Ideal Uses**

· Storage areas, small bathrooms, copy rooms, and a variety of small spaces without wall switches

Self-Contained Infrared Ceiling Mount Occupancy Sensors 🕦 🚱						
Description	Cat. No.	Color	Rating	Coverage		
Self-Contained PIR Ceiling Mount Occupancy Sensor and Switching Relay, 120V	ODCOS-I1W	W	Incandescent: 1000W @ 120V. LED Fluorescent: 1000VA @ 120V. Motor: 1HP @ 120V, 50/60Hz	360°, 530SF*		
Self-Contained PIR Ceiling Mount Occupancy Sensor and Switching Relay, 220V	ODCOS-I2W	W	Incandescent: 1000W @ 220V. LED Fluorescent: 500VA @ 220V. For 50Hz AC only			
Self-Contained PIR Ceiling Mount Occupancy Sensor and Switching Relay, 277V	ODCOS-I7W	W	LED Fluorescent: 2700VA @ 220V. 50/60Hz			
Protective Cage for Ceiling Mount Sensors	ODCCG-000	_	_			



ODC0S-I1W

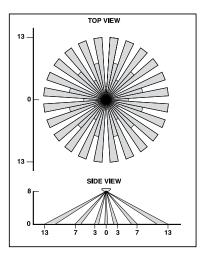


ODCCG-000

## Field of View for Self-Contained Infrared Ceiling Mount Occupancy Sensors

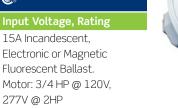
## ODCOS-I (in feet)

\*When surface mounted on standard 8 foot ceiling



## **Line Voltage Sensors**



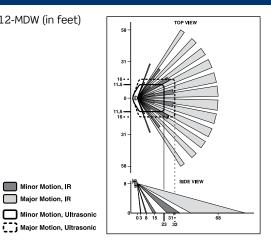




ODW12-MDW

## Field of View for Line Voltage Multi-Technology Wall-Mount Occupancy Sensors

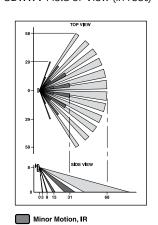
ODW12-MDW (in feet)



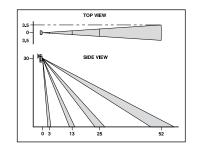
## Field of View for Line Voltage Infrared Indoor Wall-Mount Occupancy Sensors

ODWWV Field of View (in feet)

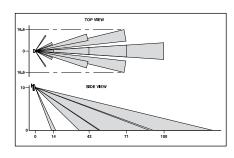
Minor Motion, IR Major Motion, IR



ODWHB Field of View (in feet)



ODWLR Field of View (in feet)



Major Motion, IR

Sensing Control



#### **Features and Benefits**

#### PIR Fixture Mount High Bay Occupancy Sensor

- Universal unit includes two interchangeable lenses for 360° high bay and 360° low bay at no additional cost
- Cold storage models for applications as low as -40°F and 480V models available in non-neutral versions
- Switching control of LED drivers
- Mounts directly to industrial-style fluorescent luminaire or electrical junction box
- Self-contained PIR sensor and relay turn individual fixtures ON/OFF based on occupancy

Self-Contained PIR High Bay and Integral Luminaire Occupancy Sensors

- Up to 40ft mounting height and quick and easy installation with long 42" leads
- Relay uses zero-crossing circuitry for enhanced reliability and long-life operation
- Bright green LED status indicator blinks to signify that the sensor is functioning properly
- Delayed-OFF time adjustment from 30sec to 20min
- Offset Adapter Accessory snaps into 1/2" knockout to position sensor below fixture body for improved field of view with deep-body fixtures

#### PIR Fixture Mount High/Low-Bay Dimming Occupancy Sensor

- Dimming occupancy sensor with integrated photocell contains two interchangeable 360° high bay and 360° low bay lenses at no additional cost
- Cold storage models for applications as low as -40°F and 347V models available
- Up to 40ft mounting height with 21" wire leads

#### PIR Fixture Mount High-Bay Wet Location Occupancy Sensor

- Ideal for damp or wet wash down locations
- Occupancy sensor comes with two interchangeable lenses for use in either 360° high bay and 360° low bay general area and includes an aisle mask accessory at no additional cost
- Up to 40ft mounting height with 7.5" wire leads

### PIR Fixture Mount Integral Luminaire Occupancy Sensor

- Easy installation with longer 21" leads allows for easy connection to any ballast, eliminating the need to splice additional wiring
- Integrated photocell prevents lights from turning ON when room is illuminated by natural light for maximum energy savings
- 8' to 10' mounting heights
- Adjustable time delay and light level dials located on sensor housing for easy access

## Self-Contained Infrared High Bay Occupancy Sensors\* (1) (1)

#### Coverage

**360° high-bay lens** — 2:1 spacing to mounting height under 20 ft. and 1.5:1 spacing to mounting height @ 40 ft. **360° low-bay lens** — 2:1 spacing to mounting height @ 8 ft. to 20 ft.

Description	Rating	Models	Cat. No.
Fixture Mount High-Bay PIR Occupancy	Fluorescent: 800VA @ 120V,	120-230-277-347V	OSFHU-ITW
for 360° High-Bay and 360° Low-Bay  Fluorescent: 1500\ 2400\text{VA @ 480\text{V 50}}  (OSFHU-x4\text{W model})	Fluorescent: 1200VA @ 277V,	120-230-277-347V, Cold Storage	OSFHU-CTW
	Fluorescent: 1500VA @ 347V,	240/480V	OSFHU-I4W
	2400VA @ 480V 50/60Hz (OSFHU-x4W models only) Motor: 1/4 HP @ 120V	240/480V, Cold Storage	OSFHU-C4W
Fixture Mount High-Bay PIR Sensor with Interchangeable Lenses and Light Sensor, Low Voltage	Input: 20mA Output: 120mA HVAC: 1A, 30VDC	24V	OSFHP-ILW

\*Consult with factory for 208, 220, 230, and 240V models

## Self-Contained Infrared High Bay Occupancy Sensors\* (1) (6)

#### Coverage

**360° high-bay lens** — 2:1 spacing to mounting height under 20 ft. and 1.5:1 spacing to mounting height @ 40 ft. **360° low-bay lens** — 2:1 spacing to mounting height @ 8 ft. to 20 ft.

Description	Rating	Models	Cat. No.
Surface Mount High-Bay PIR Occupancy Sensor	Fluorescent: 800VA @ 120V, Fluorescent: 1200VA @ 277VAC, Fluorescent: 1500VA @ 347VAC, Motor: 1/4 HP @ 120V	_	OSFHS-ITW
Fixture Mount High-Bay PIR Wet Location Sensor with Two Interchangeable Lenses	Fluorescent: 800VA @120VAC Fluorescent: 1200VA @ 277VAC Fluorescent: 1500VA @ 347VAC Motor: 1/4 HP @120V	120-277-347V	OSFHW-CTW
Fixture Mount High/Low-Bay PIR Sensor with Two Interchangeable Lenses	Fluorescent: 800VA @ 120VAC Fluorescent: 1200VA @ 277VAC Motor: 1/4 HP @120VAC	120-277V	HB011-PDX (21" Leads) HB011-BDX (42" Leads)
		347V	HB011-PD2 (21" Leads) HB011-BD2 (42" Leads)
Fixture Mount PIR 0-10V Dimming Wet Location Occupancy Sensor with four interchangeable lenses**	Electronic Ballast/LED Driver: 120VAC, 0-800W or Tungsten: 0-600W, 60Hz Electronic Ballast/LED Driver 277VAC: 0-1,200W 347VAC: Electronic Ballast/LED Driver 0-1,500W, 1/4 HP motor load @ 120VAC and 277VAC, 1/6 HP motor load @ 347VAC	120/277/347VAC	HBE11-IUB

<sup>\*</sup>Consult with factory for 208, 220, 230, and 240V models.

<sup>\*\*</sup>Order lenses separately







OSFHW



OSFHP



HB011



OSFHD



HBE11









Continued on next page



Sensing Control
Line Voltage High Bay and Integral Luminaire | Commercial

Continued from previous page

## **Self-Contained Infrared High Bay and Integral Luminaire Occupancy Sensors**

## Self-Contained Infrared High Bay Occupancy Sensors\* (1) (8) Coverage

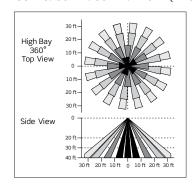
360° - 1:1 spacing to mounting height up to 8 ft

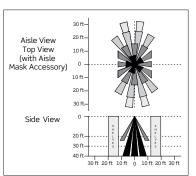
<b>300</b> — 1.1 spacing to mounting ne	right up to ont.			
Description	Rating	Models	Cat. No.	
Fixture Mount Integral Luminaire	Incandescent: 598W @ 120V.	120-230-277V (Integrated Unit)	OSF10-IOW	OSF
PIR Occupancy Sensor	Fluorescent: 1000VA @ 230VAC,	120-230-277V, Power Pack	OSF10-PPW	
	Fluorescent: 1200VA @ 277VAC	36" Connection Cable	OSFCA-36W	
Fixture Mount PIR Outdoor Luminaire Occupancy Sensor with 360 degree high bay lens (8-40') and aisle mask	Fluorescent: 800VA @120VAC Fluorescent: 1200VA @ 277VAC Incandescent: 800W @ 120V Motor: 1/4 HP @120V	120-230-277-347V	OSF20-IUW	
Fixture Mount PIR Outdoor Luminaire Occupancy Sensor with 360 degree high bay lens (20-40') and aisle mask, low voltage model	Input: 20mA Output: 120mA HVAC: 1A, 30VDC	24VAC/VDC	OSF20-ILW	OSF10- OSF10-

<sup>\*</sup>Consult with factory for 208, 220, 230, and 240V models

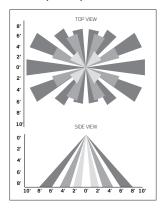
## Field of View for Fixture-Mount High Bay Occupancy Sensors

#### OSFHU/OSFHP/OSFHD/HB011 (in feet)





#### OSF10 (in feet)



Self-Contained Infrared High Bay Occupancy Sensor Accessori	es 🕦 😘
Description	Cat. No.
High Bay Lenses for High-Bay Sensors	OSFLN-00W
Low Bay Lenses for High-Bay Sensors	OSFLN-00B
Aisle Lens for High-Bay Sensors	OSFLN-00E
Offset Adapter Accessory for Fixture-Mount Occupancy Sensor	OSFOA-00W
Offset Adapter Accessory for High-Bay Occupancy Sensor	OSFLO-00W
Protective Cage for High-Bay Mount Sensors	OSFCG-00W



OSF0A

## Low Voltage Occupancy Sensors

## **Ceiling Mount Multi-Technology Occupancy Sensors**

These advanced motion sensors combine infrared and ultrasonic technology for highly accurate monitoring without false triggers. All-digital self-adjusting technology provides "install and forget" solution for automatic lighting control. Available in a variety of coverage patterns to suit many applications. Use with Leviton Power Pack.

#### **Features and Benefits**

#### **Functional**

- · Ultrasonic sensing for maximum sensitivity combined with passive infrared (PIR) sensing to prevent false triggers from air conditioning and corridor activity
- Self-adjusting settings continuously analyze and adjust sensitivity, timer operation, and air current compensation for reliable long-term performance
- Isolated relay supports HVAC or other Class 2 low voltage signals
- Supports both 24VAC/VDC power supplies
- Ambient light override to prevent lights from turning on when there is ample natural light
- Manual delayed-off-time settings of 30 seconds to 30 minutes
- Self-adjusting delayed-off-time interval settings for 30 seconds to 30 minutes
- Compensates for real-time occupancy patterns preventing unnecessary on/off switching
- Non-volatile memory preserves all automatic and manual settings during power outages

#### **Physical**

- Small, unobtrusive unit blends in with any décor
- Fast, simple installation using 4 color-coded low-voltage wires and a single mounting post
- Compatible with Wiremold® surface raceways for mounting to hard ceilings

Ceiling Mount Multi-Technology Occupancy Sensors and Accessories 🖫 🚱						
Description	Cat. No.	Coverage	Rating	Color		
Multi-Technology Ceiling Mount Occupancy Sensor	OSC05-M0W	40kHz	180°, 500SF	Off-White		
Multi-Technology Ceiling Mount Occupancy Sensor	OSC10-M0W	40kHz	360°, 1000SF	Off-White		
Multi-Technology Ceiling Mount Occupancy Sensor	OSC20-MOW	32kHz	360°, 2000SF	Off-White		
Multi-Technology Ceiling Mount Occupancy Sensor with Isolated Relay	OSC05-RMW	40kHz	180°, 500SF	White		
Multi-Technology Ceiling Mount Occupancy Sensor with Isolated Relay	OSC10-RMW	40kHz	360°, 1000SF	White		
Multi-Technology Ceiling Mount Occupancy Sensor with Isolated Relay	OSC20-RMW	32kHz	360°, 2000SF	White		
Power Base Adapter	OPB15-0DW	_	_	Off-White		
Cosmetic Adapter	OPBCA-00W	_	_	Off-White		
Protective Cage for Ceiling Mount Sensors	ODCCG-000	_	_	_		
Note: Use low-voltage wiring to connect sensors to OSPXX Power Pack  Continued on next page						



OSC05-MOW



OSC20-M0W





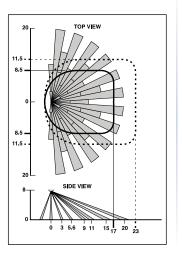
Low-voltage wiring is used to connect Leviton Occupancy Sensors to Cat. No. OPP20 Super Duty Power Packs and OSP20 Power Packs, or OPB15 Power Base Adapter (purchased separately). See pages L-30 to L-33 for more information.



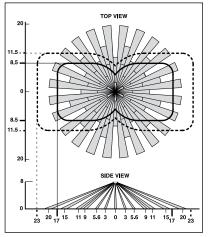


## Field of View for Low Voltage Multi-Technology Ceiling Mount Occupancy Sensors

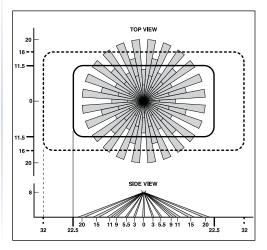
OSC05-M0W (in feet)



OSC10-MOW (in feet)



OSC20-MOW (in feet)



Sensing Control

Major Motion, IR

Minor Motion, Ultrasonic

Major Motion, Ultrasonic

### **SPOTLIGHT**

Occupancy Sensor Layout Services

Take advantage of Leviton's exclusive occupancy sensor layout services online. Our team of experts can create occupancy sensor layouts directly on your CAD drawings complete with a List of Equipment at no cost to you. Go to portal.leviton.com.



## **Ultrasonic Ceiling Mount Occupancy Sensors**

Advanced ultrasonic sensing technology for highly accurate monitoring, including small-motion detection. All-digital self-adjusting technology provides an "install and forget" solution for automatic lighting control. Use with Leviton Power Pack.

#### **Features and Benefits**

#### **Functional**

- Ultrasonic sensing for maximum range and sensitivity combined with accurate small-motion detection
- Self-adjusting settings continuously analyze and adjust sensitivity, timer operation and air current compensation for reliable long-term performance
- Ambient light override to prevent lights from turning on when there is ample natural light
- Manual delayed-off time settings of 30 seconds to 30 minutes
- Self-adjusting delayed-off time interval settings for 30 seconds to 30 minutes. Compensates for real-time occupancy patterns preventing unnecessary on/off switching
- Non-volatile memory preserves all automatic and manual settings during power outages

#### **Physical**

- Small, unobtrusive unit blends in with any décor
- Fast, simple installation using 4 color-coded low-voltage wires and a single mounting post
- Compatible with Wiremold® surface raceways for mounting to hard ceilings

Ultrasonic Ceiling Mount Occupancy Sensors and Accessories for use with Leviton Power Pack 🖫 🚳							
Description	Cat. No.	Rating	Coverage	Color			
U/S Ceiling Mount Occupancy Sensor	OSC05-U0W	40kHz	180°, 500SF	Off-White			
U/S Ceiling Mount Occupancy Sensor	OSC10-U0W	40kHz	360°, 1000SF	Off-White			
U/S Ceiling Mount Occupancy Sensor	OSC20-U0W	32kHz	360°, 2000SF	Off-White			
U/S Ceiling Mount Occupancy	OSC05-RUW	40kHz	180°, 500SF	White			
Sensor with Isolated Relay							
U/S Ceiling Mount Occupancy	OSC10-RUW	40kHz	360°, 1000SF	White			
Sensor with Isolated Relay							
U/S Ceiling Mount Occupancy	OSC20-RUW	32kHz	360°, 2000SF	White			
Sensor with Isolated Relay							
Power Base Adapter	OPB15-0DW	_	_	Off-White			
Cosmetic Adapter	OPBCA-00W	_	_	Off-White			
Protective Cage for Ceiling Mount Sensors	ODCCG-000	_	_	White			

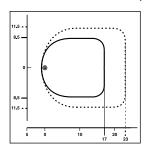


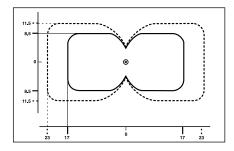
OSC05-U0W

Note: Use low-voltage wiring to connect sensors to OPP20 or OSPxx Power Pack or OPB15 Power Base Adapter

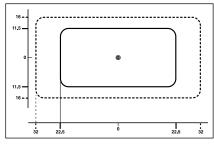
## Field of View for Low Voltage Ultrasonic Ceiling Mount Occupancy Sensors

OSC05-U0W Field of View (in feet) OSC10-U0W Field of View (in feet)





OSC20-U0W Field of View (in feet)



Minor Motion, Ultrasonic

Major Motion, Ultrasonic



#### Related Products

Low-voltage wiring is used to connect Leviton Occupancy Sensors to Cat. No. OPP20 Super Duty Power Packs and OSP20 Power Packs, or OPB15 Power Base Adapter (purchased separately). **See pages L-30 to L-33 for more information.** 

Sensing Control



### **Ceiling Mount PIR Occupancy Sensors**

#### **Features and Benefits**

#### **Functional**

- Self-adjusting settings continuously analyze and adjust sensitivity, timer operation, and long-term performance
- Isolated relay supports HVAC or other Class 2 low voltage signals
- Supports both 24VAC/VDC power supplies
- Ambient light override prevents lights from turning on when there is ample natural light
- Manual delayed-off-time settings of 30 seconds to 30 minutes
- Self-adjusting delayed-off-time interval settings for of 30 seconds to 30 minutes. Compensates for real-time occupancy patterns — preventing unnecessary on/off switching
- Non-volatile memory preserves all automatic and manual settings during power outages

#### **Physical**

- Small, unobtrusive unit blends in with any décor
- Fast, simple installation using 4 color-coded low-voltage wires and a single mounting post
- Compatible with Wiremold® surface raceways for mounting to hard ceilings

Infrared Ceiling Mount Occupancy Sensors and Accessories for use with Leviton Power Pack 🖫 🚳						
Description	Cat. No.	Coverage	Color			
PIR Ceiling Mount Occupancy Sensor	OSC04-IOW	360°, 450 sq. ft.	Off-White			
PIR Ceiling Mount Occupancy Sensor	OSC15-IOW	360°, 1500 sq. ft.	Off-White			
PIR Ceiling Mount Occupancy Sensor with Isolated Relay	OSC04-RIW	360°, 450 sq. ft.	White			
PIR Ceiling Mount Occupancy Sensor with Isolated Relay	OSC15-RIW	360°, 1500 sq. ft.	White			
Power Base Adapter	OPB15-0DW		Off-White			
Cosmetic Adapter	OPBCA-00W	_	Off-White			
Protective Cage for Ceiling Mount Sensors	ODCCG-000	_	White			

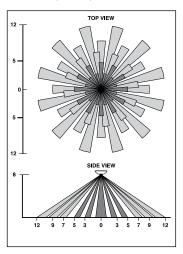


OSC04-I0W

Note: Use low-voltage wiring to connect sensors to OPP20 or OSPxx Power Pack or OPB15 Power Base Adapter

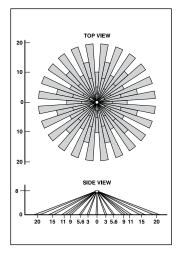
## Field of View for Low Voltage PIR Ceiling Mount Occupancy Sensors

#### OSC04-IOW (in feet)





#### OSC15-IOW (in feet)





Advanced motion sensors combine infrared and ultrasonic technology for highly accurate monitoring without false triggering. Advanced Passive Infrared technology for highly accurate monitoring in a variety of commercial applications. All-digital self-adjusting technology provides "install and forget" solution for automatic lighting control.

#### **Features and Benefits**

- Ultrasonic sensing for maximum sensitivity combined with passive infrared (PIR) sensing to prevent false triggers from air conditioning and corridor activity
- Isolated relay supports HVAC or other Class 2 low voltage signals
- Supports both 24VAC/VDC power supplies
- Adjustable swivel neck rotates 80° vertically and 60° horizontally. Can be used for ceiling or wall mounting
- Self-adjusting settings continuously analyze and adjust sensitivity, timer operation, and air current compensation for reliable, long-term performance

- Ambient light override to prevent lights from turning on when there is ample natural light
- Manual delayed-off-time settings of 30 seconds to
- Self-adjusting delayed-off-time interval settings of 30 seconds to 30 minutes. Compensates for real-time occupancy patterns, preventing unnecessary on/off switching
- Non-volatile memory preserves all automatic and manual settings during power outages
- Fast, simple installation using 3 color-coded low-voltage wires and a single mounting post

Multi-Technology Wall Mount Occupancy Sensors and Accessories for use with Leviton Power Pack or Power Base Adapter (1) (6).								
Description	Cat. No.	Rating	Operating Frequency	Color				
Wall Mount Multi-Technology Occupancy Sensor	OSW12-M0W	115°, 1200SF	32kHz	Off-White				
Wall Mount Multi-Technology Occupancy Sensor with Isolated Relay	OSW12-RMW	115°, 1200SF	32kHz	White				
Power Base Adapter	OPB15-0DW	_	_	Off-White				
Cosmetic Adapter	OPBCA-00W	_	_	Off-White				
Protective Cage for Ceiling Mount Sensors	OSWCG-P0W	_	_	White				

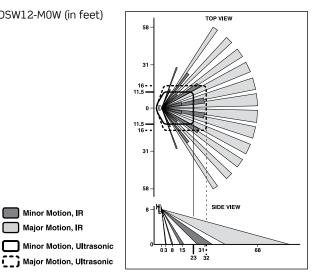


OSW12-M0W

Note: Use low-voltage wiring to connect sensors to OPP20 or OSPxx Power Pack or OPB15 Power Base Adapter

## Field of View for Low Voltage Multi-Technology Wall Mount Occupancy Sensors

OSW12-M0W (in feet)





#### **Related Products**

Low-voltage wiring is used to connect Leviton Occupancy Sensors to Cat. No. OPP20 Super Duty Power Packs and OSP20 Power Packs, or OPB15 Power Base Adapter (purchased separately). See pages L-30 to L-33 for more information.

Minor Motion, IR

Major Motion, IR



## Sensing Control Low Voltage Infrared Wall Mount | Commercial

#### **Infrared Indoor Wall Mount Occupancy Sensors**

Advanced PIR technology for highly accurate monitoring. All-digital self-adjusting technology provides an "install and forget" solution for automatic lighting control. Use with Leviton Power Pack.

#### **Features and Benefits**

- Self-adjusting settings continuously analyze and adjust for optimum performance
- Isolated relay supports HVAC or other Class 2 low voltage signals
- Supports both 24VAC/VDC power supplies
- Adjustable swivel neck rotates 80° vertically and 60° horizontally. Can be used for ceiling or wall mounting
- Ambient light override prevents lights from turning on when there is ample natural light
- Manual delayed-off-time settings of 30 seconds to 30 minutes
- Self-Adjusting delayed-off-time interval settings for 30 seconds to 30 minutes. Compensates for real-time occupancy patterns — preventing unnecessary on/off switching
- Non-volatile memory preserves all automatic and manual settings during power outages
- Fast, simple installation using 3 color-coded low-voltage wires and a single mounting post

Infrared Indoor Wall Mount Occupancy Sensors and Accessories for use with Leviton Power Pack or Power Base Adapter 🚇 🅞					
Description	Cat. No.	Coverage	Color		
Wall Mount PIR Wide-View	OSWWW-I0W	115°, 2500SF	Off-White		
Occupancy Sensor					
Wall Mount PIR High-Bay	OSWHB-IOW	55 ft. x 7 ft. wide @ 10 ft. high	Off-White		
Occupancy Sensor					
Wall Mount PIR Long-Range	OSWLR-IOW	100 ft. x 14 ft. @ 10 ft. high	Off-White		
Occupancy Sensor					
Wall Mount PIR Wide-View	OSWWV-RIW	115°, 2500SF	White		
Occupancy Sensor					
with Isolated Relay					
Wall Mount PIR High-Bay	OSWHB-RIW	55 ft. x 7 ft. wide @ 30 ft. high	White		
Occupancy Sensor					
with Isolated Relay					
Wall Mount PIR Long-Range	OSWLR-RIW	100 ft., 110° @ 10 ft. high	White		
Occupancy Sensor					
with Isolated Relay					
Power Base Adapter	OPB15-0DW	_	Off-White		
Cosmetic Adapter	OPBCA-00W	_	Off-White		
Protective Cage for	OSWCG-P0W	_	White		
Ceiling Mount Sensors					
Note: Use low-voltage wiring to connect	t sensors to OPP20 or OSP	xx Power Pack or OPB15 Power Base Adapter	Continued on next page		



OSWHR-IOW

Note: Use low-voltage wiring to connect sensors to OPP20 or OSPxx Power Pack or OPB15 Power Base Adapter

Continued on next page



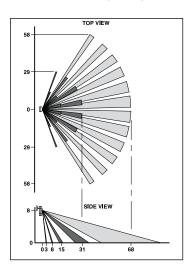
#### **Related Products**

Low-voltage wiring is used to connect Leviton Occupancy Sensors to Cat. No. OPP20 Super Duty Power Packs and OSP20 Power Packs, or OPB15 Power Base Adapter (purchased separately). See pages L-30 to L-33 for more information.

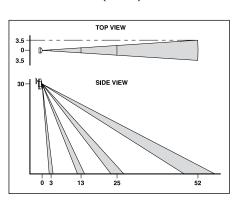
## **Infrared Indoor Wall Mount Occupancy Sensors**

## Field of View for Low Voltage Wall Mount PIR Indoor Occupancy Sensors

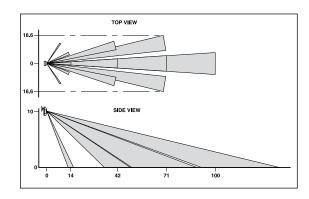
OSWWV Field of View (in feet)



OSWHB Field of View (in feet)



#### OSWLR Field of View (in feet)



Minor Motion, IR
Major Motion, IR

#### **SPOTLIGHT**

Leviton 2018 IECC, ASHRAE Standard 90.1 2019 and 2019 California Title 24 Online Design Guides

Take advantage of Leviton's 2018 IECC, ASHRAE 90.1 2019 and 2019 California Title 24 Design Guides on your laptop or mobile device. These comprehensive online guides are searchable by recommended Leviton solution, code article or application. To register or download the Leviton ASHRAE 90.1 and California Title 24 mobile apps go to **iecc.leviton.com**,

ashrae.leviton.com or title24.leviton.com



## **High Frequency Occupancy Sensors**

The Leviton High Frequency Occupancy Sensors are innovative devices that detect motion through low density materials and can be installed behind fixture lenses, inside lighting fixtures or behind objects made of plastic or glass. The high frequency waves offer less interference and false tripping than traditional sensing technology for reliable occupancy applications.

#### **Features and Benefits**

#### High Frequency Sensor (OSM3D-V1W)

- Automatic switching based on motion and ambient light level
- Zero crossing detection circuitry protects the sensor against inrush current when switching
- LED lighting compatible
- Detection area, time delay and daylight threshold can be set via sensor DIP switch
- Hold times range from 10 seconds to 30 minutes
- 150° wall detection, 360° ceiling detection
- 5.8 GHz high frequency microwave
- 4-pole press-in terminal for easy wiring
- Surface or base mounting can be hidden from view

#### 0-10V Dimming High Frequency Sensor (OSM3D-DDW)

- Automatic switching or dimming
- Built-in daylight sensor
- Designed to detect movement behind low-density fixture materials or behind objects made of plastic or glass
- The sensor's compact size allows it to easily fit in most luminaires
- LED lighting compatible
- Detection area, time delay and daylight threshold can be set via sensor DIP switch
- Wide detection area range up to 52 feet
- Mounting height up to 49 feet
- Hold times range from 5 seconds to infinity
- 150° wall detection, 360° ceiling detection
- 5.8 GHz high frequency microwave
- Press-in terminal for easy wiring
- Surface or base mounting can be hidden from view

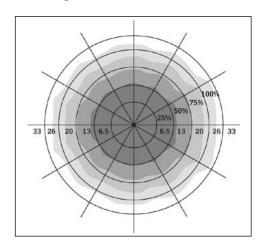
High Frequency Occupancy Sensors			
Description	Coverage	Color	Cat. No.
High Frequency Microwave Sensor	150° (wall),	White	OSM3D-V1W
0-10V Dimming High Frequency Sensor	360° (ceiling)		OSM3D-DDW



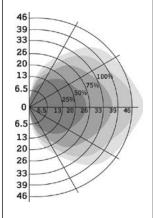
OSM3D

### Field of View for High Frequency Occupancy Sensors

OSM3D Ceiling Pattern Field of View (in feet)



OSM3D Wall Pattern Field of View (in feet)



## Power Packs and Power Base Adapter

Power packs provide power for occupancy sensors as well as load switching circuitry. A Leviton Power Pack is required with any low voltage occupancy sensor. Add-A-Relay units can be used to expand control capability.

#### **Features and Benefits**

#### **OPP20 Super Duty Power Pack**

- Robust and reliable mechanically held 20A latching relay provides dependability and robust performance for all load types and provides power savings over electrically held relay power packs
- Industry exclusive fail-safe circuitry in the event of product failure, Return-to-Closed capability causes relay to default to a closed position (ON) for safe operation and alleviation of safety concerns
- Industry exclusive H.I.S. (High Inrush Stability) circuit designed to handle high inrush electronic ballast loads
- Switching control of LED drivers
- Submitted and passed for stringent testing
  - Tested over 1,500,000 loaded cycles
  - Passed NEMA 410 testing for electronic ballast current overload at 16A
  - Can be used to comply with NY LL48, IECC, ASHRAE 90.1 and 2019 Title 24, Part 6 daylight harvesting, demand response, bi-level switching and receptacle control requirements
  - UL/cUL 916 Listed for Energy Management Equipment
- Multiple compliance and regulatory UL and CSA testing consult factory for details
- · Output short circuit protection
- · Optimal installation flexibility
  - Class 2 wires are Teflon coated for UL 2043 Plenum Rated applications
  - Mounts inside or outside fluorescent ballast cavity
  - Mounts inside or outside junction box

#### OPP20-0D1

• Auto-ON occupancy sensor input

#### OPP20-0D2

- Exclusive self-detect configurable local switch input momentary or maintained
- Configurable for Auto-ON and Manual-ON occupancy sensor inputs
- Can be used to comply with NY LL48, IECC, ASHRAE 90.1 and 2019 Title 24, Part 6 daylight harvesting, demand response, bi-level switching and receptacle control requirements

#### OPP20-RD3

- Auto-ON occupancy sensor input
- Photocell (switching only) ready

#### OPP20-RD4

- Exclusive self-detect configurable local switch input momentary or maintained
- Configurable for Auto-ON and Manual-ON occupancy sensor inputs
- Photocell (switching only) ready
- Can be used to comply with NY LL48, IECC, ASHRAE 90.1 and 2019 Title 24, Part 6 daylight harvesting, demand response, bi-level switching and receptacle control requirements

#### **OSP20-RDH Power Pack**

- Auto-ON and manual-ON inputs for occupancy sensors (OSP20-RDH)
- Hold-ON and Hold-OFF capabilities (OSP20-RDH)
- Switches incandescent, magnetic and electronic fluorescent, magnetic and electronic low voltage, and motor loads
- Compact size and light weight allows easy mounting through knockout in junction box (from either inside or outside the box) with a simple twist-on nut



## Sensing Control

Continued from previous page

### **Power Packs and Power Base Adapter**

#### **Features and Benefits**

#### Add-A-Relay

- Expands power pack load capacity by functioning as a supplementary relay
- Provides ability to switch loads in different voltage systems
- Compatible with electronic ballasts
- Same compact size and mounting features as Power Pack
- Zero-crossing switching circuitry for outstanding durability

#### Nipple Adapter

- Simplifies the connection of occupancy sensor to the low-voltage side of a power pack mounted inside a fluorescent ballast cavity
- 1/2" conduit lock nut included

## **Commercial Grade Occupancy Sensor Power Packs**

Description	Cat. No.	Power Input*	Relay	Control	Power Supply
			Rating	Input	Output
Power pack, basic with	OPP20-0D1	120-230-277VAC,	20A, 2400W @ 120V — Resistive	2mA,	225mA,
Auto-ON		50/60 Hz	20A, 2400W @ 120V — General Purpose	24VDC	24VDC
			20A, 2400W @ 120V — Incandescent		
Super Duty Power Pack	OPP20-0D2		20A, 2400W @ 120V — Fluorescent		
with Auto-ON, Manual-ON,			16A, 1920VA @ 120V — Electronic Ballasts		
and Local Switch Inputs,			16A, 1920W @ 120V — LED		
Super Duty Power Pack	OPP20-RD3		20A, 5540W @ 277V — Resistive		
with Auto-ON and			20A, 5540W @ 277V — General Purpose		
Photocell Input			20A, 5540VA @ 277V — Fluorescent		
Super Duty Power Pack	OPP20-RD4*		16A, 4430VA @ 277V — Electronic Ballasts		
with Auto-ON, Manual-ON,			16A, 4430W @ 277V — LED		
Switch, and Photocell			1/2 HP @ 120V — Motor Load		
Input, suitable for general			2 HP @ 240/277V — Motor Load		
purpose plug load control					
			Suitable for general purpose plug load		
			control - 20A, 2400W @ 120V — Can be		
			used to comply with NY LL48, IECC,		
			ASHRAE 90.1 and 2019 Title 24,		
			Part 6 daylight harvesting, demand		
			response, bi-level switching and		
			receptacle control requirements		

<sup>\*</sup>Consult with factory for 208, 220, and 240V models





OPP20

**Energy Management** 

Continued from previous page

### **Commercial Grade Occupancy Sensor Power Packs**

Occupancy Sensor Power Packs (1) 🚱						
Description	Cat. No.	Power Input*	Relay Rating	Control Input	Power Supply Output	
Power Pack with HVAC Relay with Auto-ON and Manual-ON Inputs for Occupancy Sensors	OSP20-RDH	120-230-277VAC, 50/60Hz	20A Incandescent @ 120V. 20A Fluorescent @ 120-230-277/347VAC. 1/2HP @ 120V, 2HP @ 240-277V. HVAC: 0.5A @ 120VAC, 1A @ 30VDC	5mA, 24VDC	225mA, 24VDC	
Power Pack with HVAC Relay	OSP15-R30	347VAC, 60Hz	15A Fluorescent @ 347V. 1HP @ 120V, 2HP @ 240V. HVAC: 0.5A @ 120VAC, 1A @ 30V DC		120mA, 24VDC	
Add-A-Relay Unit with HVAC Relay	OSA20-R00	_	15A Incandescent @ 120V. HVAC: 0.5A @ 125VAC, 1A @ 30VDC		_	

\*Consult with factory for 208, 220, and 240V models Note: For use with the following Low Voltage Switches:

- 56081-02I/W Low Voltage Momentary Contact Decora® Rocker Switch
- 12021-02I /W Low Voltage Standard Toggle Switch
- 56021-02I /W Low Voltage Decora® Rocker Switch



OSP20

## **SPOTLIGHT**

Leviton Energy Code Apps

IECC 2018, ASHRAE 90.1 and Title 24 apps, gain easy access to a wealth of the lighting control code requirements on your mobile device. These valuable reference tools allow you to search by application, article language and recommended Leviton solutions. Get inspiration for designing energy code compliant applications by viewing diagrams and summaries of the requirements met for recommended solutions. For more information go to leviton.com/apps.







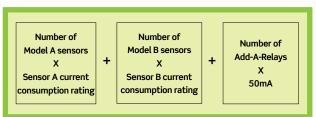
# Sensing Control

### **Power Packs and Power Base Adapter and Accessories**

## Power Pack Capacity Formula

Leviton power packs can be used to provide power to one or more occupancy sensors. Since current consumptions of occupancy sensors may vary, the best way to ensure you order the correct number of power packs and Add-A-Relays is by using this formula:

Sensor	Current Consumption
OSC04-I, OSC15-I, OSWHB-I, OSWLR-I, OSWWV-I	10-15mA
OSC05-M, OSC05-U, OSW12-M	25mA
OSC10-M, OSC10-U	30mA
OSC20-M, OSC20-U	40mA
OSA20-R00 Add-A-Relay	50mA





## **Self-Contained Power Base Adapter**

Converts any Leviton low voltage ceiling or wall mount occupancy sensor to a self-contained, line voltage unit with 15A, 120/277V load capacity.

#### **Features and Benefits**

- Patent-pending design converts Leviton low voltage ceiling sensors to line voltage
- · Ideal for both existing buildings with limited access to low-voltage wiring and new construction with line-voltage circuiting only
- Mounts easily in standard 2 1/8" deep x 4" octagon or 2 1/8" deep x 4" square electrical box with a 2-gang mud ring; flying leads provide fast line voltage connections
- Two-piece terminal block provides fast, easy low-voltage connections to the sensor
- Relay uses zero-crossing circuitry for enhanced reliability and long-life operation

Power Base Adapter* (1) 🔞					
Description	Cat. No.	Power Input/Output	Rating	Color	
Power Base Adapter —	OPB15-0DW	Power Input: 120-230-277VAC, 50/60Hz	15A	Off-White	
Converts select Leviton		Control Input: 24VDC, 5mA			
low-voltage ceiling or wall		Power Output: 120VAC @ 15A Incandescent;			
mount occupancy sensor		277VAC @ 15A Fluorescent;			
models to a self-contained		Motor: 120VAC 3/4HP, 277VAC 2HP			
line voltage unit		Control Output: 24VDC, 40mA			
Cosmetic Adapter	OPBCA-00W	_	_	Off-White	

Agency Listings & Code Compliance: NOM Certified. Consult with factory for 208, 220, 230 and 240V models. Note: Coverts OSCxx-I, OSCxx-M and OSCxx-U. Does not convert OSCxx-R



OPB15-0DW (Occupancy Sensor not included)

## **Outdoor Motion Sensors**

Passive Infrared (PIR) outdoor motion sensors provide outstanding value in security lighting, as well as convenience, safety and energy savings for a wide range of commercial and residential applications.

#### **Features and Benefits**

#### **Professional Series**

- Adjustable sensitivity and immunity to RFI signals reduces false triggers
- Ambient light override prevents lights from turning on when there is ample natural light
- Surge suppression minimizes likelihood of damage due to electrical surges
- Temperature compensation feature ensures uniform performance in extreme hot or cold weather and during temperature fluctuations

#### **Residential Series**

- Ideal for a wide range of residential settings including backyards, garages, entranceways, porches, swimming pool areas, doorways, and private docks
- Adjustable sensitivity reduces false triggers

#### **Both Series**

- Sensor neck adjustment allows accurate monitoring: 110° vertical, 180° horizontal, 110° rotational
- With or without dual floodlight lampholder
- Adjustable delayed-off-time settings from 20 seconds (for test mode) to 15 minutes
- Provides automatic, test and continuous modes. Test mode simulates automatic operation with short delayed-off-time for easy adjustments. Continuous mode enables manual override for constant "lights ON" operation (when used with standard on/off switch)

Commercial Grade Outdoor Motion Sensors 🖫 🚱						
Description	Cat. No.	Rating	Coverage	Color		
Outdoor PIR Motion Sensor	PS200-70W	220-277VAC, 50/60Hz. 10A incandescent, 5A ballasts	200°			
Outdoor PIR Motion Sensor	PS110-70W	220-277VAC, 50/60Hz. 10A incandescent, 5A ballasts	110°			

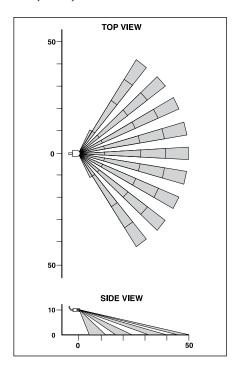


PS200-10W

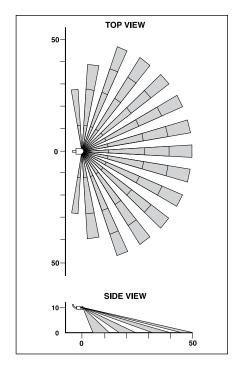


## Field of View for Outdoor Motion Sensors

#### RS110 (in feet)



### PS200 (in feet)



## **Photocells**

Leviton's photocell sensors precisely monitor either task or ambient light levels. As part of a Leviton energy management system, photocells work with other components in the system to automatically adjust light levels to a user-defined level. Photocells are most suitable for installation in rooms with windows and open spaces receiving substantial ambient light. Photocells must be hardwired to a compatible Leviton lighting control system. The photocell measures ambient light in a specific area and sends this data to a dimmer or relay that, in turn, adjusts fixtures to a constant lighting level as measured in that specific area. Daylight Harvesting is achieved as lights in a room (with windows or significant, artificial ambient light) automatically brighten or dim depending on how much light the photocell detects.

#### **Daylight Harvesting**

With daylight harvesting, ambient (often natural) light supplements in-room, artificial light in order to keep a constant lighting level while saving energy. This constant level is programmed into a compatible control device. Once hardwired to the photocell, the dimmer or relay will receive the photocell's real-time light measurement and maintain a steady level within the photocell's area of detection.

#### **Features and Benefits**

- Indoor photocells are designed with a flat Fresnel lens that looks downward in a 60° cone of reference to measure actual light on the work surface, reducing the influence of stray light striking the photocell from nearby windows or incidental side lighting
- Outdoor photocells are IP54 rated to guarantee ultimate protection from dirt, dust, oil, and other non-corrosive material
- Measures light from any source in the visible spectrum within a 60° cone or 180° angle of response depending on the model
- Constant lighting at the optimal level for greater visual comfort and acuity, which contributes to improved productivity
- Provides convenient, automatic hands-free daylight harvesting when integrated with Leviton lighting control products
- Lowers electric bills by reducing usage of lighting where ambient natural light is also present
- Lumen maintenance opportunity compatible

Photocells				
Description	Cat. No.	Lens	Sensing Range	Color
Photocell	ODC0P-00W	Clear	1-1600fc	White
Switching Photocell	ODC0P-S0W	Clear	1-1600fc	White
Dimming Photocell	ODC0P-D0W	Clear	1-1600fc	White
Line Voltage Photocell	PCCxx-00W	Clear	1-1600fc	White
Indoor Photocell	PCIND-000	Fresnel	75-800fc	White
Indoor Photocell	PCIND-0SV	Diffuse	3, 30, 300 or 600fc	White
Outdoor Photocell	PCOUT-000	Clear Hood	50-750fc	White
Atrium Photocell	PCATR-000	Dome/Frost	215-2690fc	White
Skylight Photocell	PCSKY-000	Dome/Frost	1076-8072fc	White



ODCOP-00W

Room Control



## Room Control

# Provolt™

## **Provolt™ 0-10V Dimming Room Controllers (PRC)**

The Leviton exclusive Provolt™ 0-10V Dimming Room Controllers (PRC) offer high-performance, code compliant, advanced room configuration in one easy-to-design, install and configure device. The PRC's features meet advanced design requirements for single room/area dimming applications offering easy configuration and operational testing for 0-10V manual dimming zone, occupancy sensing, plug load control, partial-ON, partial-OFF, two daylight harvesting zones, area control and demand response. Two light pipes are included for both open loop (angled) and closed loop (flat and angled) daylight harvesting. For closed loop applications, the angled light pipe provides directional fine tuning and alignment to natural light source. Download the Provolt™ Bluetooth® Mobile App for easy room configuration and testing via any iOS or Android device.

#### Provolt™ Room Controller



## **Features and Benefits**

#### **Automatic Room Configuration (ARC)**

The industry-exclusive enhanced automation feature optimizes lighting by monitoring and adjusting to new technology introduced to a room while preventing interferences to the PRCs signal during the life of the product.

- Room behavior and trending data adjusts automatic OFF timer
- Ultrasonic (U/S) sensor sensitivity adjustments to reduce false ONs and false OFFs
- U/S processing keeps room lighting operational by detecting other U/S sources and adjusting or shutting lights OFF as required
- Uploading and downloading custom room configuration templates reduces errors, speeds installation, testing and troubleshooting
- Used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 requirements for occupancy/vacancy sensing
- Continuous 0-10V dimming control
- Daylight Harvesting
- Area control (ON, dim-up, dim-down, OFF) manually dimmable-occupancy sensing auto-ON/auto-OFF
- Occupancy sensing auto-ON and manual-ON
- Partial-ON
- Partial-OFF
- Demand response

#### **Features and Benefits**

- Manual area control available for 3-way/multi-way applications with the Provolt (PLVSW) keypads (must all be same style)
- Manual control for single area dimming (dim both primary and secondary daylighting zones up and down simultaneously)
- Simplified daylight harvesting control of primary and secondary daylighting zones with full range 0-10V dimming Primary zone dimmed up and down from photocell
  - Secondary zone dimmed up and down with offset from primary zone
- Two light pipes are included for both open (angled) and closed loop (flat and angled) daylight harvesting
  - The angled light pipe provides directional fine tuning and alignment to natural light source for closed loop applications
- Easily test room configuration using a smart device as a calibration, measurement and testing tool
- Connect a OPP20 power pack to a two circuit room controller for a plug load control solution
- Industry-exclusive H.I.S. (High Inrush Stability) technology
- Tested to 1.2 million switching cycles under standard loads
- Zero-crossing circuitry for extended life of the relay
- Latching relay provides dependability and robust performance for all load types
- Easily download the Provolt Bluetooth Mobile App to an iOS or Android smart device and pair to the PRC using Bluetooth technology
- Select between Occupancy (Auto-ON/Auto-OFF) and Vacancy (Manual-ON/Auto-OFF)
- Add additional PRC Sensors to an application for expanded sensor coverage for cubicles and corridors

Provolt™ 0-10V Dimming Room Controllers	
Description	Cat. No.
Provolt™ Line Room Controller, primary daylighting control, ceiling mount, M/T, 2,000 sq ft, 0-10V DC sinking signal for dimming ballast or LED driver, 120-277V (both lenses included)	05C20-MDW
Provolt™ Line Room Controller, primary and secondary daylighting control, ceiling mount, M/T, 2,000 sq ft, 0-10V DC sinking signal for dimming ballast or LED driver, 120-277V (both lenses included)	06C20-MDW
Provolt™ Line Room Controller, primary daylighting control, ceiling mount, PIR, 450-1,500 sq ft, 0-10V DC sinking signal for dimming ballast or LED driver, 120-277V (both lenses included)	05C04-IDW
Provolt™ Line Room Controller, primary and secondary daylighting control, ceiling mount, PIR, 450-1,500 sq ft, 0-10V DC sinking signal for dimming ballast or LED driver, 120-277V (both lenses included)	06C04-IDW
Download for free from Google Play or the Apple App Store	Provolt™ Mobile App

For code compliant, manual wall station control use Provolt™ Low Voltage (PLVSW) 1, 2 or 4 Button Keypads with the 0-10V Dimming Room Controllers



Tablet Main Screen



Tablet Daylighting Screen



Smart Phone Main Screen



Smart Phone Daylighting Screen



Room Control Provolt™ | Commercial

Continued from previous page

## Provolt™ Low Voltage Keypads

Provolt™ Low Voltage Keypads are Decora® devices for controlling non-dimmable and dimmable luminaries connected to Provolt™ 0-10V Dimming Room Controllers (PRC). The Provolt™ Keypads provide a unique control station with multi-function capabilities available in 1-, 2- and 4-button configurations with a matching white wallplate.

Provolt™ 0-10V Dimming Room Controllers	
Description	Cat. No.
Provolt™ Keypads, 1-button ON/OFF controller	PLVSW-1LW
for use with Provolt™ Room Controllers	
Provolt™ Keypads, 2-button ON/OFF controller for use with Provolt™ Room Controllers	PLVSW-2LW
Provolt™ Keypads, 4-button ON/OFF controller for use with Provolt™ Room Controllers	PLVSW-4LW
1-button Color Change Kit	RDGSW-1Ex*
2-button Color Change Kit	RDGSW-2Ex*
4-button Color Change Kit	RDGSW-4Ex*
1-button Custom Engraved Color Change Kit	RDGSW-1Fx*
2-button Custom Engraved Color Change Kit	RDGSW-2Fx*
4-button Custom Engraved Color Change Kit	RDGSW-4FX*



RDGSW-4FW

# Hospitality Key Card Switches

Leviton key card switches are designed to provide energy savings for the hospitality industry by ensuring that no devices are left on when the room is not in use. These switches control electrical circuits by simply inserting or removing the guest's access card into the device. Both line voltage and low voltage switches are available for application flexibility.

## **Features and Benefits**

- Functions as dependable vacancy sensor when guest leaves and removes card
- Reduce energy costs by ensuring circuits are ON only during occupancy (when key card is in switch)
- Attractive low profile design with color change kit to meet the most common room designs or décor
- LED lighting illuminates the card slot for easy location in a dark room
- High Inrush Stability (H.I.S. Technology)
  - Zero crossing circuitry optimizes relay operation for reliable, long-life operation
  - Robust mechanical latching relay is durable for all load types
- No neutral model (HKSWP-GDX) is specially designed for retrofit applications where neutral wires are not available
- · Low voltage model is compatible with applications utilizing building automation systems, energy management systems, and lighting control panels
- Requires WSTLT to operate within the LevNet RF network
- Fully rated to protect the entire circuit with UL Listing and 20A relay

Hospitality Key Card Switches	
Description	Cat. No.
Hospitality Key Card switch with color change kit, 120-277V	HKSWP-0DX*
Hospitality Key Card switch with color change kit, 120-277V, no neutral	HKSWP-GDX
Hospitality Key Card switch with color change kit, 24V	HKSWP-0LX*
Faceplate, Gray, 25 pack	HKSWP-00G*
Faceplate, Ebony, 25 pack	HKSWP-00E*







\*All HKSWP models ship with the Color Change kit — includes a White, Ivory and Light Almond faceplate

<sup>\*</sup>Replace x to indicate color: White (W), Ivory (I), Light Almond (T), Gray (G), Black (E) and Red (R). Color change kits are blank and available for engraving



**Energy Management** 

# LevNet RF™ Energy Harvesting Wireless Self-Powered Solutions

LevNet RF™ is Leviton's family of energy harvesting radio frequency products. LevNet RF™ products have three common features:

- Energy Harvesting Technology
- Wireless (Radio Frequency)
- Interoperable within an RF-Based Network

Self-powered technology allows LevNet RF™ transmitters (i.e., occupancy sensors and switches), to operate without external power or batteries. Self-powered transmitters receive power from the motion of a switch actuation, light on a solar cell or temperature differentials in the environment for a true zero-maintenance energy self-powered device. Operating in the 902 MHz band provides minimal competing traffic and greater transmission range than other technologies.

### **Product Overview**

There are two main types of LevNet RF™ products:

- A TRANSMITTER, such as a switch, generates a wireless RF control signal (e.g., "ACTUATE RELAY"). All transmitters are self-powered products that can be located anywhere and send transmission signals. Transmitters are available in occupancy sensor, control extender, Decora® rocker station, and handheld remote varieties.
- A RECEIVER receives a control signal from a transmitter and performs the appropriate action (e.g., activate or deactivate the relay). All receivers are connected to a power source and a load that the receiver operates when the RF signal is received. Receivers are available in Decora® Rocker Wall Switch, Relay Power Pack, Receptacles and Area and Fixture Controller styles.

### **Features and Benefits**

- · Easy to install for new construction and retrofit applications, requiring minimal labor disruption to operations
- Requires no new wiring and installs in ¼ the time of hardwired sensors, translating into faster turnaround and reduced costs
- With no batteries to replace and no maintenance to perform, plus annual energy savings and rebates that can total up to 80% in reduced costs, LevNet RF™ revolutionizes efficiency and savings
- Lowest power consumption of any RF device with less than one watt per device used annually, saving approximately 70% over other RF devices
- LevNet RF™ is the only energy harvesting wireless solution that fulfills LEED requirements to earn LEED points for both wireless control and no battery
- Operation at 902 MHz band reduces interference and increases transmission range
- Range: 50 to 150 feet
- Complies with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 requirements
- FCC Certified for Wireless Communication (U.S.), I.C. Certified (Canada)
- Backed by a limited 5-year warranty

NAFTA and Made in USA models available — visit www.leviton.com/NAFTA or www.leviton.com/USA For more information visit www.leviton.com/levnetrf

Continued on next page

## **SPOTLIGHT**

## Leviton Energy Code Apps

IECC, ASHRAE 90.1 and Title 24 apps, gain easy access to a wealth of the lighting control code requirements on your mobile device. These valuable reference tools allow you to search by application, code or article language and contain recommended Leviton solutions. Get inspired to design energy code compliant applications by viewing diagrams and summaries of the requirements for recommended solutions. Go to iecc.leviton.com, ashrae.leviton.com or



title24.leviton.com

Room Control



LevNet RF™ Selection System | Commercial

Continued from previous page

## **LevNet RF™ Energy Harvesting Wireless System**

## **Basic System Selection**

STEP 1

Determine Which LOADS You Want to Control: Lighting, HVAC, Lamp, TV, etc.

# STEP 2

Pick the Appropriate RF RECEIVER

LevNet RF™ Wireless/ Wired-In Receivers









Pick the Appropriate Energy Harvesting Wireless RF Transmitter (Sensor or Switch)

LevNet RF™ Sensor or Switch





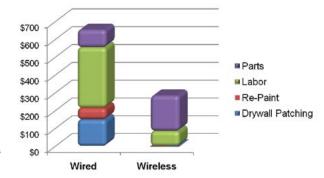




Transmitting

Tip A good way to visualize your wireless system is to imagine that the "wires" connecting each device are invisible wires or "unique addresses."

### Wired vs. Wireless Cost



\*Installation time per device: 45-50 minutes for hardwired vs. 10-15 minutes for wireless devices

## **LevNet RF™ Receivers**

	Neutral Model	Non-Neutral Model	
Cat. No.	WSS20-N9N	WSS20-G9N	
Description	Use for larger rooms with multiple loads. F	Pairing for rocker, momentary and toggle	
Input Voltage	120-230-277VAC		
Power Consumption	120V < 1/2 Watt; 277V < 2/3 Watt		
Memory	Stores up to 20 Transmitter IDs		
Button Pairing Modes	Rocker, Momentary and Toggle		
Vacancy Confirmation	30 seconds		
Mode	Presentation/Viewing		
Time Delay	2 min (test), 10, 20, 30 min		
Load Rating	General Duty: 10A		
	LED: 400W 120V		
	Incandescent: 800W @ 120V		
	Fluorescent Ballasts: 1200VA @ 120V		
	Fluorescent Ballasts: 2700VA @ 277V		
	Motor: 1/4 HP Load @ 120V		
Additional Listings	ETL/C-ETL: UL 508, can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 area		
	controls and shut-off controls requiremer	nts, CAN/CSA C22.2 #14	

Color Change Kit ships with White, Ivory and Light Almond faceplates



WSS20

Coordinating Faceplates for LevNet RF™ Wall Switch	Receivers	
Cat. No.	Color	Quantity
WSSCC-00G	Gray	25 per package
WSSCC-00E	Black	25 per package

Continued on next page

# SPOTLIGHT

LevNet RF™

For more information on our energy harvesting wireless self-powered solutions, including technical reference, LEED credits, programming videos, and software downloads go to www.leviton.com/levnetrf.





## LevNet RF™ Receivers | LevNet RF™ Transmitters | Commercial

Continued from previous page

## **LevNet RF™ Receivers**

	Fixture Controller	Area Controller	Relay Power Pack
Cat. No.	WSD05-9D0	WSD20-9D0	WSP20-9D0
Power Supply Input	120-277VAC, 50/60Hz	120-277VAC, 50/60Hz	100-277VAC, 50/60Hz
Max Loads/ Contact Rating	General Duty: 10A. LED: 400W @ 120V LED. Incandescent: 800W @ 120V.		General Duty: 20A Tungsten (Incandescent): 20A Fluorescent Ballast: 20A
	Fluorescent Ballasts: 1200VA @ 120V, 2700VA @ 277V.  Motor: 1/4 HP Load @ 120V.		Motor Load: 1HP Selectable N.O. or N.C.
	*For non-neutral models: 25W minimum	1 1 2	power up state
Memory	Stores up to 20 Transmitter IDs	Stores up to 20 Transmitter IDs	Stores up to 20 Transmitter IDs
Output Channels	1 — Latching Form A Relay, Selectable N.O. or N.C.	1 — Latching Form A Relay, Selectable N.O. or N.C.	1 — Latching Form A Relay, Selectable N.O. or N.C
	power up state	power up state	
	1 — 0-10V output signal	1 — 0-10V output signal	
	1 — 12VDC output (WSD20-9D0 only)	1 — 12VDC output (WSD20-9D0 only)	
Time Delay	15 min		
Additional	UL 60730 and UL 2043		
Listings	C-ETL: CSA C22.2 #1405		
	Can be used to comply with IECC, ASHR demand response, switching and occup	AE 90.1 and 2019 Title 24, Part 6 0-10V pancy sensing requirements	dimming, daylight harvesting,

Note: Comes packaged with five color faceplates: White, Ivory, and Light Almond



WSD20

## **LevNet RF™ Transmitters**

Sensors		
	Ceiling Mount Occupancy Sensors	Wall Mount Occupancy Sensors
Cat. No.	WSC12-M9N	WSWDR-H9W
Coverage	1200SF	1600/2200SF
Power Consumption	Self-Powered	
Transmission	60 seconds (+/- 10 sec)	30 minutes @ 0.5FC (5 LUX); 15 minutes @ 1.0FC (10 LUX); 30 seconds @ 20FC (200 LUX)
Minimum Light Required	5FC (50 LUX)	1.5FC (15 LUX)
Minimum Charge Time to Begin Operation	1 minute @ 20FC (200 LUX)	1 minute @ 1.5FC (15 LUX); 5 seconds @ 20FC (200 LUX)
Maintain Charge Time	3 hours per 24 hours @ 20FC (200 LUX)	3 hours per 24 hours @ 20FC (200 LUX)
Operating Life at Full Charge	3.3 days	48 hours
Additional Listings	Can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 occupancy sensing requirements, FCC Certified for Wireless Communication (U.S.), I.C. Certified (Canada)	

Wall Stations — Controls Virtually Any On/Off Device			
	Single/Dual Rocker D	Decora® Wall Stations*	Handheld 4-ButtonRemote
Cat. No.	WSS0S-S9x	WSS0S-D9x	WSS0S-R9W
Buttons	2 Buttons (1 Rocker)	4 Buttons (2 Rockers)	
Output Channels	Only limited by number of Recievers in range		
Addressing	Factory set unique ID (1 of 4 billion)		

Control Extender	
	Communicates with Receivers that control virtually any ON/OFF device
Cat. No.	WSTLT-9D0
Power Supply Input	100-277VAC, 50/60 Hz
Addressing	Factory set unique ID (1 of 4 billion)
Additional Listings	UL 60730 (Safety), UL 2043 (Plenum), CSA C22.2#14-05 (Safety), CE-IEC 60730, can be used to comply with IECC, ASHRAE 90.1 and 2019 Title 24, Part 6 0-10V dimming, daylight harvesting, demand response, switching and occupancy sensing requirements

<sup>\*</sup>Available in White (-W), Ivory (-I), Light Almond (-T), Gray (-G) and Ebony (-E).

Note: Wall Stations are both switches and dimmers depending on the receiver they are paired to - see Wall Stations.

For details see Data Sheet on **Leviton.com/levnetrf** 





WSC12-M9N









WSS0S-R9W



# Integrated Room Control (IRC) Energy Management System

The Leviton Integrated Room Control (IRC) can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, demand response and stairwell application control requirements. IRC features several methods of Ladderless Commissioning™ for install-and-forget convenience. The performance, features and capabilities of the IRC product provide a simple and cost-effective standalone energy management solution to maximize energy efficiency and meet energy code mandates for virtually any commercial room control application.

### **Features and Benefits**

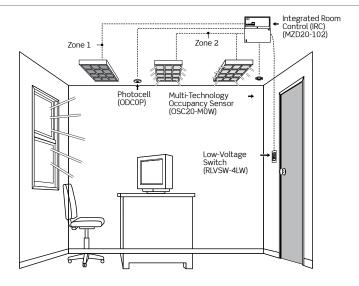
- Standalone, simplified daylight harvesting with full range dimming
- Demand response capabilities
- 2- or 3-zone control for LED lighting
- Kitted with factory configured sensor, photocell and 4-button switch
- 4-button switch available with ON, Bright, Dim and ON/OFF buttons with optional engraving
- 2 entry stations for individual manual zone control included with 2 zone, 2 relay kit (RCD20-102)
- Can be used to comply with 2019 Title 24, stairwell application control requirements
- Provides plug load control when paired with OPP20 Super Duty Power Pack
- Cost-effective energy code compliance

- Ladderless Commissioning™ provides install-and-forget convenience
- Convenient occupancy sensor and photocell integration
- Autocal automatic photocell target level calibration
- Accepts external time clock input to provide an OFF Sweep Function or modify the partial OFF function
- Simplified integration with emergency systems
- Controls maximum lighting output for additional energy savings potential and Task Tuning
- Daylight switching, full range 0-10V dimming
- Partial ON control for initial light level in either manual switch or occupancy sensor auto modes
- Partial OFF control for minimum continuous light level
- Adjustable minimum light level shut off value
- Emergency input drives auxiliary zones to full

Continued on next page

Room Control

## Typical IRC Installation



### **SPOTLIGHT**

Leviton ASHRAE Standard 90.1 2019 & CA Title 24 2019 Resources

Take advantage of Leviton's wealth of information and tools relating to ASHRAE Standard 90.1 2019 and Title 24. Gain access to code, product, and application information; download the latest design guides as well as the Leviton ASHRAE and Title 24 apps. Find it all by going to **ashrae.leviton.com** and **title24.leviton.com**.





**Energy Management** 

Continued from previous page

## **Integrated Room Control (IRC) Load Ratings**

- 20A per relay, 120/277V
- 15A per relay, 347V
- 0-10VDC LED drivers, Fluorescent, non-dimmed and 0-10V dimmed
- 120mA power output for operation of occupancy sensors, etc.

Individual IRC for Kits		
Cat. No.	Description	
MZD20-102	IRC Dimming Version, 2 zone, 2 relay, 120V or 277VAC	
MZD30-101	IRC Dimming Version, 3 zone, 1 relay, 120V or 277VAC	
MZD20-C02	IRC Dimming Version, 2 zone, 2 relay, 347VAC	
MZD30-C01	IRC Dimming Version, 3 zone, 1 relay, 347VAC	



IRC

## **Integrated Room Control (IRC) Lighting Controller**

The Integrated Room Control (IRC) Lighting Controller is a Decora® device for controlling non-dimmable and dimmable luminaries connected to the IRC Controller. The IRC Lighting Controller provides a unique control station with multi-function capabilities available in a 4-button or simple 2-button configuration.

IRC Controller	
Cat. No.	Description
RLVSW-4LW	4-button ON/OFF Controller for use with IRC System
RDGSW-4Ex*	4-button Color Change Kit
RDGSW-4FX*	4-button Custom Engraved Color Change Kit
*Replace x to indica	te color: White (W), Ivory (I), Light Almond (T), Gray (G), Black (E) and Red (R)





# Lumina™ RF Standalone Wireless Room Control System

Add wireless control to virtually any ON/OFF or dimming device with Lumina™ RF Standalone devices. Compatible with virtually all lamp fixtures and load control devices, Lumina™ RF Standalone devices offer a scalable, flexible wireless mesh solution to meet the unique control needs of virtually any space all without having to pull new wires. Control one fixture or a group of fixtures in multiple zones.

## Lumina™ RF Standalone Wireless Room Control System



## **Lumina™ RF Standalone Room Control System Compatibility Chart**



#### **Lumina™ RF Keypad Room Controllers\***

- The "brain" of the system just one room controller per space needed
- Coordinates all the energy management functions in a space and provides multi-zone control, full range dimming, scene control and manual control
- Wirelessly configure button operation via the Lumina™ RF Standalone app



# Lumina™ RF Decora® Wall Switch Room Controller and Dimmer with 5A Relay

 Manages a room by coordinating activities of all devices within the space and loads up to 5A with ON/OFF and dimming control



# Lumina™ RF 20A ON/OFF Switching Power Pack

• ON/OFF relay used for plug load control, motor loads or non-dimming luminaires



# Lumina™ RF 0-10V Dimming Power Pack

 Can be used to control any 0-10V controlled load



# Lumina™ RF 800W Phase Cut Dimming Power Pack

• Allows for dimming of full phase loads



#### **Lumina™ RF 10A ON/OFF Wall Switch**

• Used to provide wireless control of lighting loads including high inrush LED loads



#### Lumina™ RF 24VDC Low Voltage Decora® Wall Dimmer

Room Control

- Low voltage rocker manual dimmer is used to control any 0-10V dimming ballast or LED driver
- 24VDC is supplied by an OPP20 Power Pack which also switches the load ON and OFF



# Lumina™ RF 10A 0-10V Decora® Wall Dimmer

 Manual switch with dimming bar used to provide wireless control of lighting loads including high inrush LED loads



## **Lumina™ RF 1000W Dimmer**

 Line powered dimmer allows dimming of full phase loads



#### **Lumina™ RF PIR Wireless**

#### **Occupancy Sensors**

- Controls the load directly, detects occupancy and communicates to and receives commands from the Lumina™ RF Keypad
- Wirelessly configure via the Lumina™ RF Standalone app for occupancy (auto-ON/auto-OFF) or vacancy (manual-ON/auto-OFF) operation



### Lumina™ RF Wireless Photocells

- Add wireless multi-zone daylight harvesting with no additional wiring
- Wirelessly configure via the Lumina™ RF Standalone app



## Lumina™ RF Standalone App

 The only setup tool needed, download via Leviton.com/apps, Google Play or Apple App Store

<sup>\*</sup>Additional Room Controllers can be added to a system for multi-way switching.

<sup>\*\*</sup>Provides load control capabilities

**Energy Management** 

Continued from previous page

## **Lumina™ RF Standalone Room Control System**

### **Features and Benefits**

- Compatible with virtually all lamps, fixtures and load control devices for a simple and flexible wireless system
- Scalable, flexible wireless controls for retrofits and new construction
- Control one fixture or a group of fixtures in multiple zones
- Configure, monitor and control the system with the Lumina™ RF Standalone App—the only setup tool needed
- Can be used to comply with IECC, ASHRAE 90.1 and 2019 Title 24, Part 6 space/area control, dimming, occupancy/vacancy sensing, automatic shutoff, multi-zone daylight harvesting and receptacle control requirements

### **Advanced Wireless Controls**

- Lumina™ RF Standalone Room Controller The "brain" of the system just one room controller per space needed. Coordinates all the energy management functions in a space and provides multi-zone control, full range dimming, scene control and manual control
- Lumina™ RF Wall Switch Room Controllers The "brain" of the system just one room controller per space needed. Provides ON/OFF control with additional room control capabilities available in the Keypad Room Controller. 0-10V dimming model available
- Lumina™ RF Wallbox Room Controller The "brain" of the system—just one room controller per space needed. Provides ON/OFF and dimming control with additional room control capabilities available in the Keypad Room Controller. Low voltage, 0-10V dimming model available
- Lumina™ RF Load Control Devices Add to virtually any lamp or fixture for a wireless ON/OFF, 0-10V dimming and phase cut dimming solution
- Lumina™ RF Wireless Sensor Add wireless occupancy/vacancy sensing with no additional wiring
- Lumina™ RF Wireless Photocell Add wireless occupancy/vacancy sensing with no additional wiring
- Lumina™ RF Standalone App The only setup tool needed, allows for room configuration, monitoring and remote control from an Android or iOS smart device

Lumina™ RF Keypad Room Controllers*	
Description	Cat. No.
Lumina™ RF Decora® 1-Button multi-function BLE keypad with room controller, 120-277VAC, 50/60Hz	DLDNK-01W
Lumina™ RF Decora® 2-Button multi-function BLE keypad with room controller, 120-277VAC, 50/60Hz	DLDNK-02W
Lumina™ RF Decora® 4-Button multi-function BLE keypad with room controller, 120-277VAC, 50/60Hz	DLDNK-04W
Lumina™ RF Decora® 8-Button multi-function BLE keypad with room controller, 120-277VAC, 50/60Hz	DLDNK-08W
Lumina™ RF Decora® Wall Switch Room controller with 5A Relay, 120-277VAC, 50/60Hz, 5A Load	DL05S-D0Z**
Lumina™ RF Decora® Wall Station Room Controller	
Description	Cat. No.
Lumina™ RF Standalone 0-10V Wallbox Room Controller, 2.4GHz, 120-277VAC, 50/60Hz, 5A Load	DL057-D0Z
Lumina™ RF Standalone 0-10V Wallbox Room Controller, 2.4GHz, 347VAC, 50/60Hz, 5A Load	DL057-30Z
Lumina™ RF Load Control Devices	
Description	Cat. No.
Lumina™ RF 20A ON/OFF Switching Power Pack	LU20S-DNW
Lumina™ RF 10A, 0-10V Dimming Power Pack	LU107-DNW
LUITIIII RF 10A, 0-10 V DITTITIIII B POWEI PACK	

\*Not compatible with other Lumina® RF Gateway products. Contact Leviton for more information

Room Control



Continued from previous page

Lumina™ RF Decora® Dimmers and Switches	
Description	Cat. No.
Lumina™ RF Decora® Wall Switch, 2.4 Zigbee, 120-277 VAC, 50/60Hz, 10A Load	ZS10S-D0Z
Lumina™ RF 24VDC Low Voltage Decora® Wall Dimmer, 2.4GHz, 24VDC, 0-10V Sinking, 20mA	ZS057-ALZ
Lumina™ RF Decora® 0-10V Wall Dimmer, 2.4 GHz, 120-277 VAC, 50/60Hz, 8A Load, 0-10V Sinking, 50mA	ZS057-D0Z
Lumina™ RF Decora® 0-10V Wall Dimmer, 2.4 GHz, 347VAC, 50/60 Hz, 4A Load, 0-10V Sinking, 50 mA	ZS057-30Z
Lumina™ RF 1000W Dimmer, 120V 1000VA INC, 450W LED/CFL, 1000VA FL MARK X, 1000VA MLV, neutral required	DL1KD-1BZ
Lumina™ RF Wireless Occupancy Sensors	
Description	Cat. No.
Lumina™ RF Wireless PIR Occupancy Sensor, 450 sq ft	ZSC04-lxW
Lumina™ RF Wireless PIR Occupancy Sensor, 1500 sq ft	ZSC15-lxW
Lumina™ RF Wireless Photocell	
Description	Cat. No.
Description Lumina™ RF Surface Mount Wireless Photocell	Cat. No. LURPC-01W
•	
Lumina™ RF Surface Mount Wireless Photocell	

## **Approved Compatible ZigBee-enabled LED Lamps and Fixtures**

Product No.	Ordering Abbreviation	Description
71507	Ledtroff34wadjw22zbs+	Sylvania Smart + ZigBee Troffer 2X2 Adjustable White Retrofit Kit
71506	Ledtroff48wadjw24zbs+	Sylvania Smart+ ZigBee Troffer 2X4 Adjustable White Retrofit Kit
73773	Led48flexxlrgbwzbs+	Sylvania Smart+ ZigBee Flex XI Full Color And Adjustable White Lighting Kit
74284	Led48flexxlrgbwzbs+	Sylvania Smart+ ZigBee Flex XI Smart+ Expansion
74746	Ledpanel32wadjw22zbs+	Sylvania Smart+ ZigBee Edge-Lit Panel 2X2 Adjustable White Fixture
74523	Ledpanel40wadjw24zbs+	Sylvania Smart+ ZigBee Edge-Lit Panel 2X4 Adjustable White Fixture
73739	Led11br30rgbwzbs+	Sylvania Smart+ ZigBee Br30 Full Color And Adjustable White Bulb
73740	Led9.5Br30adjwzbs+	Sylvania Smart+ ZigBee Br30 Adjustable White Bulb
74581	Led11br30dim10ys+	Sylvania Smart+ ZigBee Br30 Soft White Bulb
74282	Led8.5Mr16tws+	Sylvania Smart+ ZigBee Mr16 Adjustable White Bulb
74281	Led21rthodim56rgbws+	Sylvania Smart+ ZigBee Rt 5/6 Ho Full Color And Adjustable White Led Recessed Lighting Kit

Approved Compatible ZigBee-enabled Signify MasterConnect and EasySmart Lamps**					
Product No.	Model No.	Description	Volts	Color Temp. (K)	LED Lifetime
537175	9290012811	14T8/48-830/IF20/MAScon IA 10/1	120/277	3000	50,000
537183	9290012812			3500	
537191	9290012813			4000	
537209	9290012814			5000	
466458	9290012811	14T8/48-3000 IF 10/1 EasySmart		3000	
466466	9290012812			3500	
466474	9290012813			4000	
466482	9290012814			5000	

<sup>\*</sup>Sold separately. Refer to https://www.ledvance.com/
\*\* Sold separately. Refer to https://www.signify.com/



# Sapphire™ Room Controller

Sapphire™ Room Controller provides the flexibility of a fully customizable user interface with the convenience of native controls from Leviton's Commercial Systems products. Sapphire™ Room Controllers are Leviton's premier touch screen offering occupancy/photocell sensing, full-range automatic dimming, color tuning and daylighting integration. Schedule holidays and daily lighting schedules from the touch screen.

## Sapphire™ Room Controller





Sapphire™ user interface — Administration



Sapphire™ user interface — Conference Room



Sapphire™ user interface — Gym

## **Features and Benefits**

- 7" capacitive touch screen
- Direct control of Leviton Hi-Fi over Ethernet
- Direct control of Leviton Switcher/Scaler over Ethernet
- User interface components
  - Tabs/pages
  - Buttons
  - Sliders
- Touch screen status updated from actual device status
- LumaCAN® connectivity
- Secure password protected administration
- Online/offline configuration and screen design through PC Tool
- Software and configuration updates through front panel USB memory stick
- Available faceplates: White, Light Almond and Black



#### **Features and Benefits**

### **LCD Applications**

- Color tuning 0-10V, DMX
- Conference room control
- Building supervisor control panel
- Classroom control
- Executive office control
- Ballroom control
- Anywhere touch-interface is desired

### **Room Controller Details**

- (2) low voltage/analog inputs for connecting of occupancy sensors, photocells, etc.
- Receives input signals for automatic dimming and daylighting within the space
- Allows for closed loop daylight harvesting

### **Scheduler Details**

- 7 day scheduler
- (2) custom, user-defined holiday exception calendars for convenience, and can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 scheduling requirements
- Astronomical time clock and special event calendar
- Incorporate color tuning strategies for circadian rhythm simulation that can continuously run in the background without any scheduled events

#### **AV Controls**

- Set scenes for different usage scenarios with the press of a button
- Set audio zone levels
- Select video source
- Utilizes Bluetooth integration to stream music directly into a system via a smartphone or tablet, or from traditional CD players and MP3 docks

## **Slider Details**

- Configurable caption
- Supports only set channel/ group level commands

#### **Button Details**

- Button Operating Modes
  - Toggle
  - Press/release
  - Preset group
- Configurable caption
- All network commands supported

#### **Network Commands**

- Administrative Functions
  - Network setup
- Log file import/export
- Configuration update
- Snapshot record
- Snapshot edit
- Set channel level
- Set group level
- Fade stop
- Room combine/separate
- Fade rate or fade time
- Raise/lower
- Turn audio zone ON/OFF (Hi-Fi)
- Set audio zone level (Hi-Fi)
- Select audio zone source (Hi-Fi)
- Select video source (Switcher/Scaler)
- Projector ON/OFF (BC4)

Sapphire™ Room Controller	
Description	Cat. No.
7" Touch Screen, capacative interface, no faceplate uncluded	TS007-000
7" Touch Screen Color Change Kit, Black faceplate	TS007-COE
7" Touch Screen Color Change Kit, Light Almond faceplate	TS007-COT
7" Touch Screen Color Change Kit, White faceplate	TS007-C0W
7" Touch Screen Locking Cover, Black	TS007-LCE
4 Gang box	BBG04-000
4 Gang raised device ring for use with BBG04-000	WPG04-DR0
+24VDC, 1A, 30W 100-277VAC input DIN Rail Power Supply. UL, CUL & CE.	PST24-I10
Terminals on input and output	



Sapphire™ with Black Faceplate



Sapphire™ Black Faceplate



Sapphire™ Almond Faceplate



Sapphire™ White Faceplate



# Switcher/Scaler

The Leviton Switcher/Scaler (SSOAV) is a high-performance scaler with 9 video input interfaces to switch or scale to HDMI/HDbaseT outputs. Use with the Sapphire™ Room Controller for integrated control of lighting and AV systems.

### **Features and Benefits**

- (9) video inputs: x (1) Analog, (1) Component, (2) VGA, (3) HDMI, (1) DisplayPort, (1) HDBaseT
- (1) video output on HDMI or an HDBaseT port
- (9) analog audio inputs: unbalanced stereo audio, 20Hz-20KHz
- (1) balanced stereo line out or stereo speaker output with 2x20W@4Ω or 2x10W@8Ω, or HDMI audio out
- 8-level volume control per audio input, 100-level volume control for audio output
- Maximum input/output resolution up to WUXGA (1920 x 1200)
- Seamless audio and video switching—no black screen or fragments
- HDMI 1.3a, HDCP1.3, DisplayPort 1.1
- Audio can be mixed or separated from HDMI input and HDMI output
- EDID management for rapid integration of sources and displays
- Control method: front panel, RS-232, Ethernet, Sapphire Touch Screen
- Web interface for configuration

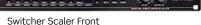
### Switcher/Scaler

Cat. No.

Switcher/Scaler (9) video inputs, (1) video output, HD15, HDBaseT; (1) HDMI and HDMT Output

SS0AV-091







Switcher Scaler Back

## **SPOTLIGHT**

Leviton ASHRAE Standard 90.1 2019 & CA Title 24 2019 Resources

Take advantage of Leviton's wealth of information and tools relating to ASHRAE Standard 90.1 2019 and Title 24. Gain access to code, product, and application information; download the latest design guides as well as the Leviton ASHRAE and Title 24 apps. Find it all by going to ashrae.leviton.com and title24.leviton.com





## EZ-MAX® Plus Relay Control Panels | Commercial

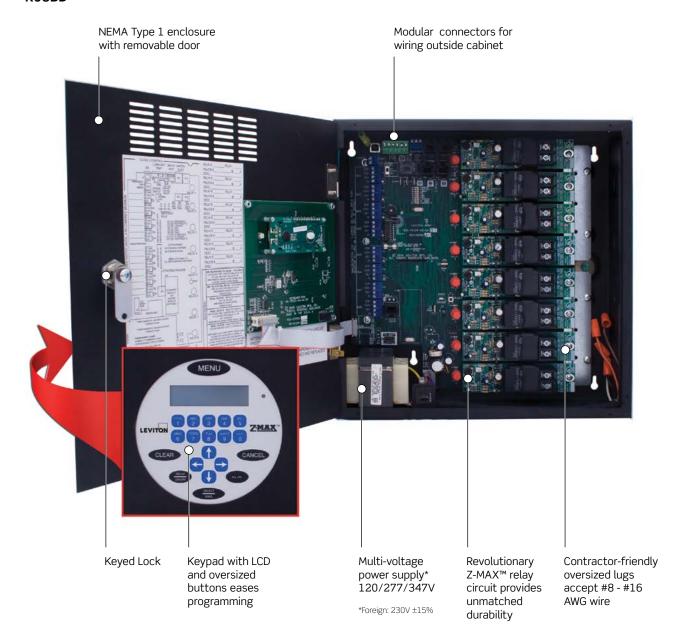
## **Centralized Control**

# EZ-MAX® PLUS Relay Control Panels

EZ-MAX® Plus relay lighting control panels pack power and performance in compact and cost-effective 8-circuit and 24-circuit models. EZ-MAX® Plus is the ideal solution for smaller, standalone applications that do not require field configuration or advanced networking features.

Programming is easy with the EZ-MAX® Plus with a large LCD screen on the panel or an off-line editor. EZ-MAX® Plus includes standard programming configurations for occupancy sensors and photocells as well as a built-in astronomical time clock (ATC) with 101 major city and states programmed into the system.

### R08BD



**Energy Management** 

Continued from previous page

## **EZ-MAX® Plus Relay Control Panels**

#### **Features and Benefits**

- Large, bright LCD screen with oversized buttons for easy programming
- Easy standard programming configuration:
  - Occupancy sensors: manual-ON or auto-ON applications
  - Photocells: interior or exterior application modes
  - Photocell light level trip points: ON or OFF
- Built-in astronomical time clock and scheduler
  - -101 major cities and states programmed for easy astronomical setup
  - Sunrise/sunset time clock events
- Auto detection/auto assign of installed network switches
- ON/OFF timed control of LED use with low voltage sensors, photocells and switches
- Select models include Wi-Fi wireless communication capabilities for remote control of the EZ-MAX®
- Enable/disable of low voltage and digital input devices minimizes power consumption
- Clearly labeled access points allow installer to locate optimum knock-out locations
- UL and cUL Listed Industrial Control Equipment and Emergency Lighting Equipment for 120V, 277V and 347V Panels
- Meets energy code requirements for ASHRAE Standard 90.1 2019 for 120V, 277V and 347V panels
- Can be used to comply with 2019 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, scheduling, and receptacle control requirements
- Rated for 100% load capacity
- Backed by a limited 10-year warranty on relays and a limited 2-year warranty on panels

EZ-MAX® Plus Relay Control Panels		
Cat. No.	Description	
R08BD-000	EZ-MAX® Plus 8 Panel, 120V, 277V, and 347V, No Relays	
R24BD-000	EZ-MAX® Plus 24 Panel, 120V, 277V, and 347V, No Relays	
R08BF-000	EZ-MAX® Plus 8 Panel, 230V, No Relays	
R08BF-L08	EZ-MAX® Plus 8 Panel, 230V, (8) 30A (NO/NC) Relays	
R08BF-208	EZ-MAX® Plus 8 Panel, 230V, (8) 2-Pole (NO) Relays	
R24BF-000	EZ-MAX® Plus 24 Panel, 230V, No Relays	



For more information visit www.leviton.com/ezmaxplus

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## **SPOTLIGHT**

# Leviton California Title 24 2019 Online Design Guide

Take advantage of Leviton's California Title 24 2019 Design Guide on your laptop or mobile device. This comprehensive online guide is searchable by recommended Leviton solution, code article or application. To register or download the Leviton California Title 24 mobile app go to title24.leviton.com.





## EZ-MAX® Plus Relay Control Panels | Commercial

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## **EZ-MAX® Plus Relay Cards**

EZ-MAX® Plus Panels use individual relay cards for each circuit allowing for the most flexibility in matching the relay type to your specific load requirements. The benefit of a single relay card for a single circuit is that it allows an infinite arrangement of relay types to position in your system and supports individual replacement should the need ever occur. In addition, EZ-MAX® Plus Wi-Fi Cards provide wireless communication capabilities for remote access to EZ-MAX® Plus Relay Control Panels.

### **Features and Benefits**

- For maximum equipment protection, standard 30A relay card has a Short Circuit Current Rating (SCCR) of 20,000A
- Relay cards individually replaceable
- Remote internet access to time clock and event scheduling for single or group locations through the batch update function
- Wi-Fi card can be added to any EZ-MAX® Plus cabinet and requires software release 1.22 or above
- Mechanical attachment to panel of each relay card is with a single screw
- Listed for use with ballasted loads
- From the panel, each relay card can be controlled as follows:
  - Override ON
  - Override OFF
  - Locked Override ON
  - Locked Override OFF
  - Timed ON
  - Timed Override OFF
- Backed by a limited 10-year warranty on relays

Relay Cards	
Cat. No.	Description
RELAY-L30	1-Pole N/O or N/C Relay Card with Manual Override, 30A, 120-277V, 347V, 20A Ballast
RELAY-2PL	2-Pole, N/O Relay Card, 20A, 208-480V
RELAY-347	347V N/O Relay Card, 20A, 347V



RELAY-L30

Accessories	
Cat. No.	Description
00LVS-xxW*	Button, Low Voltage Switch, White
ZMDSW-xxW*	Button, Digital Switch, White
ODCOP-00W	Low Voltage Photocell, 1-1,600FC
PCOUT-000	Outdoor Photocell, 0-10V, 50-750FC
PCIND-000	Indoor Photocell, 0-10V, 3, 30, 300 or 600FC
PCATR-000	Atrium Photocell, 0-10V, 215-2,690FC
PCSKY-000	Skylight Photocell, 0-10V, 1,076-8,0720FC

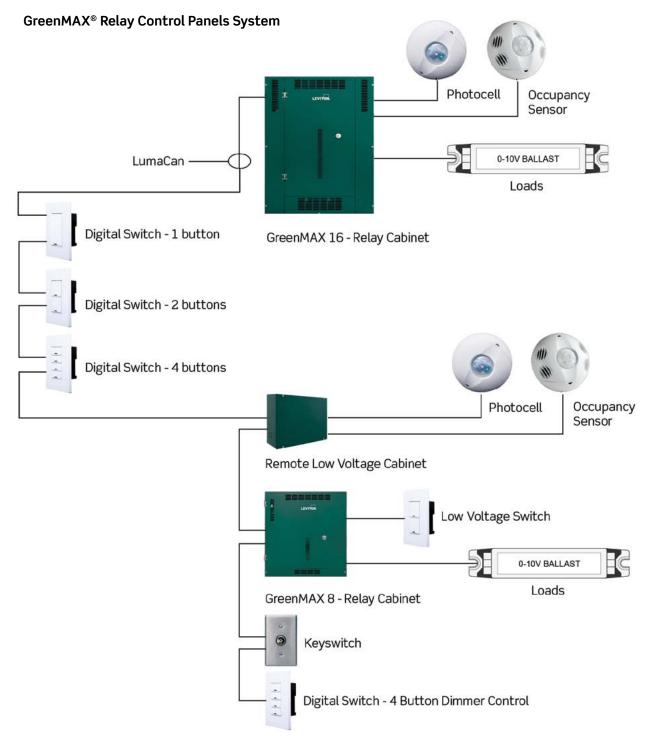
<sup>\*</sup>x = 01, 02, 04, 05, 06, 08 or 10 button switch



# GreenMAX® Relay Control Panels

## **Smart Lighting Control**

Designed for the contractor, specifier and end user, GreenMAX® Relay Control Panels offer the best performance, reliability, flexibility and energy savings of any relay control available. GreenMAX® easily integrates lighting control strategies that include switching, dimming, pulse control, behavior controls, scheduling, occupancy sensing and daylight harvesting.





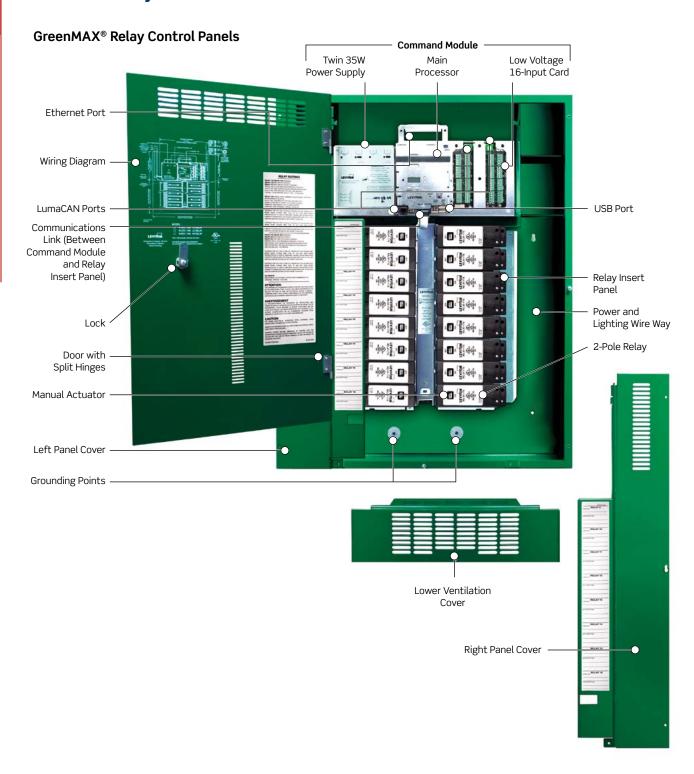
## **GreenMAX® Relay Control Panels System**

#### **Features and Benefits**

- Scalable solution offers future expansion opportunities
- Easy energy code compliance and LEED point eligibility
- Can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, scheduling, demand response, and receptacle control requirements
- Daylight harvesting capabilities
  - Dimming
  - Switching
  - Open Loop
  - Closed Loop
- Highest Short Circuit Current Rating (SCCR) of 25,000A at 277VAC for maximum equipment reliability
- Robust latching Relay Modules are rated 30A general fluorescent ballast and 20A electronic ballast in 1-pole and 2-pole configurations with the same footprint, available with or without the Return to Closed (RTC) functionality
- 0-10V dimming control with dimming and switching relay modules
- 0-10V and timed control using Leviton's exclusive behavioral design use with low voltage sensors, photocells and switches
- Programming and monitoring of the system is conveniently done with a portable Handheld Display Unit (HDU) and simplified Behavior settings in the space being controlled rather than from the electrical room
- Modular system was designed to ship the empty cabinet enclosure, complete with doors and covers, to the job site to make installation of the cabinet and conduits easier
- Communication over LumaCAN and Ethernet to simplify configuration and ensure start up simplicity
- Accommodates low voltage inputs such as occupancy sensors, photocells, contact closures, and switches
- Wiring area covers and isolation barriers conceal the circuit wiring and provide maximum arc flash protection when installed allowing work to be done with power on without chance of exposure to high voltage no Arc Flash Suit needed
- Custom engraving available on digital switches and wallplates
- Relay pulse control provides control of large mechanical contactors
- Industry leading 25,000A Short Circuit Rating (SCCR) at 277VAC withstands circuit faults for increased safety
- Native communications network protocols BACnet IP, Ethernet and LumaCAN are built into each Command Module to offer unparalleled connectivity; no additional parts or adapters are needed to communicate with other products utilizing these protocols
- Can be used to comply with IECC, ASHRAE 90.1, and 2019 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, scheduling, demand response, and receptacle control requirements
- Meets California Energy Commission demand response requirements
- Modular system includes separate empty Cabinet enclosures, Command Modules and Relay Insert Panels to minimize handling and subsequent damage during the installation process
- Easy updates loading firmware is automated and only requires plugging in a flash memory card and pressing a button
- System can be connected via Ethernet or LumaCAN networks
- All network connections are made with RJ45 connectors and cabling is standard CAT6
- Low Voltage Remote Input Card can be combined with LevNet RF™ Self-Powered Wireless Solutions to create a wireless hybrid system of inputs
- All programming and configurations are stored on a MicroSD memory card, which eliminates the need for non-volatile memory
- BMS interface through BACnet IP

For more information visit www.leviton.com/greenmax

## **GreenMAX® Relay Control Panels**





## GreenMAX® Relay Cabinets | GreenMAX® Relay Modules | Commercial

Continued from previous page

## **GreenMAX® Relay Cabinets**

#### **Features and Benefits**

- GreenMAX® system connects together with Cat6 cable and RJ45 connectors; power is provided to devices over this network running the LumaCAN protocol
- Empty cabinet enclosures ship separately from electronic components Command Module and Relay Insert Panel making the cabinets lighter and easier to handle and requiring less effort to install
- Empty cabinet also provides unobstructed access to conduit entry points and reduces the risk of damaging electronics
- Relay cabinets can hold 8, 16, 32 and 48 relays each with unlimited and flexible configuration capabilities (the 0-10VDC dimming and switching relay models can be installed in any available relay slot)
- Increased arc flash protection the cabinet door opens to expose only the low voltage area of the cabinet
- Remote Low Voltage Panels allow the connection points of the low voltage wiring enclosure to be installed closer to the devices it serves, reducing wiring and labor costs and making commissioning or troubleshooting easier
- Takes only eight screws to assemble the internal Relay Insert Panels and Command Module of a 48-Relay GreenMAX® cabinet
- A single relay or group of relays can be separated by sliding an isolation barrier between relays to eliminate the need for an additional cabinet to handle emergency loads and to allow voltages from mixed sources in the same cabinet
- Native communications network protocols BACnet IP and Ethernet are built into each Command Module to offer unparalleled connectivity; no additional devices are needed to communicate with other products utilizing these protocols



R16TC

## **GreenMAX® Relay Modules**

### **Features and Benefits**

- All GreenMAX® relay modules have a 25,000A at 277VAC Short Circuit Current Rating (SCCR) for increased reliability and durability
- Rated at 30A general fluorescent ballast and 20A incandescent, HID, electronic ballast, and LED
- All GreenMAX® Relay Modules are 1-pole or 2-pole latching relay types that reduce parasitic energy use. All relay modules are the same physical size, allowing the optimal mix of relays for each application
- Self-contained Dimming and Switching Relay Module in 1-pole configurations features daylight harvesting capabilities
- All four wires required for 0-10V dimming ballast wiring connect directly to the module no additional control board required
- All relays are latching with a manual actuator that allows users to manually bypass the system to turn lights ON or OFF without CPU power
- Metering relays provide 3% accuracy and are not suitable for revenue grade applications.
   Data is provided over BACnet through analog output objects and may be aggregated using Leviton's Measurement & Verification products
- LED Ready



RELAY-1DS

**Energy Management** 

Continued from previous page

## **Handheld Display Unit (HDU)**

#### **Features and Benefits**

- Allows programming, system configuration and scheduling to be done in the space being controlled rather than in the electrical room to make commissioning and set-up functions easier
- Configure and control the entire GreenMAX® system (or multiple systems) from any
  convenient network access point relay cabinets, switches or remote low voltage
  cabinets with just one HDU
- Provides interface with all devices and relays in the system
- Can be stored in the cabinet or designated docking station
- Communicate via LumaCAN
- 7 hour run time on a single full charge ; batteries charge when plugged into the LumaCAN network
- Astronomical clock sunrise/sunset
- HDU need not be connected to system during operation. The full computing power of a PC remains in the palm of your hand
- Comes complete with a set of rechargeable batteries



Handheld Display Unit (HDU)

## **GreenMAX® Switches**

#### **Features and Benefits**

- GreenMAX® digital key switches provide secure button presses on the network
- Manual control as required by energy codes
- Available in 1, 2, 4 and 8 button configurations, and key switch version
- Custom engraved labeling available on switch buttons and plastic screwless wallplates; engraving not available on stainless steel wallplate
- Switch colors available: White, Light Almond, Ivory, Gray, Black, and Red; all come with a matching wallplate; key switch comes with a stainless steel wallplate and tamper-resistant screws (tool included)
- Each digital switch button has a green LED pilot light to report the corresponding relay state
- 1, 2, 4, and 8 button switches can be ganged together in wallboxes (multi-gang wallplate sold separately)
- RJ45 connectors to provide inline connection to the LumaCAN network
- Any 4-button switch model can be configured to control 0-10VDC dimming circuits
- Easy-to-access port on top of switch provides connectivity for the GreenMAX® HDU



RDGSW-2DW







RDGSW-1KS Front with Faceplate



## GreenMAX® Programming | Commercial

Continued from previous page

## **Programming GreenMAX® with Lighting Behaviors**

## **Lighting Customization**

GreenMAX® controls allow different behavior settings to be programmed throughout the day. Using the HDU, any room can be set with just a few button selections:

- Select the behavior desired and the time behavior will take place
- Choose any additional behavior transitions and the time transition will take place
- Optional override to sunrise/sunset astronomical clock prevents lights from activating prematurely in summer or too late in winter
- Set behaviors to scale on a daily, weekly, monthly or holiday schedule
- Up to 24 behaviors per 24 hour period can be programmed and can be as close together as one minute

### Simple and Easy Programming

- Using the HDU, select the number on the screen corresponding with the desired behavior
- Enter time and dates to be in effect and any corresponding behavior modifiers. Behaviors can be set for entire system or individual rooms/relays

Number	Description	Occupancy	Photocell	Switch	Time
		Sensor	1 110000011	- Civicon	11110
B1	Lights turned ON with the switch. Can be turned OFF with switch. Occupancy sensor will turn OFF upon vacancy.	OFF	_	ON/OFF	_
B2	Lights turned ON with the occupancy sensor. Can be turned OFF/ON with switch. Occupancy sensor will turn OFF upon vacancy.	ON/OFF	_	ON/OFF	_
В3	Occupancy sensor turns lights ON/OFF.	ON/OFF	_	_	_
B4	Switch ON/OFF.	_	_	ON/OFF	_
B5	Time triggers a Blink Warn sequence, an OFF blink followed by a variable ON delay. Switch interrupts sequence and starts override timer. Will automatically turn OFF relay if override timer reaches zero.	_	_	ON/OFF	Blink/OFF
B6	Turn ON at specific time.	_	_	_	ON
B7	Turn OFF at specific time.	_	_	_	OFF
B8	Occupancy sensor turns ON lights with occupancy. Measured light level above photocell trigger point turns OFF or keeps lights OFF. Below setpoint allows control by Occupancy Sensor. Occupancy sensor turns OFF lights with vacancy.	ON/OFF	OFF	_	_
B9	Switch turns ON/OFF lights. Measured light levels above Photocell trigger point turns OFF or keeps lights OFF. Below setpoint allows control by occupancy sensor. Occupancy sensor turns OFF lights with vacancy.	OFF	OFF	ON/OFF	_
B10	Occupancy sensor turns ON lights with occupancy. Measured light level above photocell trigger point turns OFF or keeps lights OFF. Below setpoint allows occupancy sensor control. Switch can turn ON/OFF lights by overriding occupancy sensor control. Occupancy sensor will turn OFF lights upon vacancy.	ON/OFF	OFF	ON/OFF	_
B11	Switch ON/OFF. Measured light level above photocell trigger point turns OFF or keeps lights OFF. Below setpoint allows switch control.	_	OFF	ON/OFF	_
B12	Turns ON at specified time. Measured light level above photocell trigger point turns OFF or keeps lights OFF. Below setpoint relinquishes control to the constant ON state.	_	OFF	_	ON
B13	Occupancy sensor turns lights partially ON. Switch turns lights ON full bright or turns them OFF.	ON/OFF	_	ON/OFF	_
B14	Lights turn ON at minimum level. Occupancy sensor raises/lowers light level between Partial-ON and full ON.	ON/OFF	_	_	_

**Energy Management** 

Continued from previous page

## **Programming GreenMAX® with Lighting Behaviors**

Behavior Details		
Behavior	Description	Coverage
Switch OFF Delay	When relay is turned ON with the switch, length of time before relay will automatically turn OFF.	2.5, 5, 10, 15, 30, 60, 90, 120 minutes, and Constant ON
Occupancy Sensor OFF Delay	When vacancy is determined, length of time before relay will automatically turn OFF.	0, 0.5, 2.5, 5, 10, 20, 30 minutes
Photocell Delay	Delay before action is taken after a photocell trigger point has been crossed.	0, 0.5, 2.5, 5, 10, 20 minutes
Blink Warn — Blink Duration	Length of the OFF Blink used to notify occupants that an OFF sequence has been initiated.	0.5-25.4 seconds
Blink Warn — Delay	Specified period of time that follows the Blink.  If button is pressed during this period, the delay timer stops and the Override Time starts. If no buttons are pressed, the lights will turn OFF.	1-254 minutes
Blink Warn — Override Time	The relay will remain ON for the duration of this timer.  A new Blink Warn sequence will be initialized at the end of this period. If the relay had been OFF previously and a button is pressed to turn the relay ON, this timer will be started again.	1-254 minutes

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## **SPOTLIGHT**

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Centralized Control



## GreenMAX® Relay Control Panel Components | Commercial

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## **GreenMAX® Relay Control Panels System**

Cat. No.	Description
Tubs and Covers (all cab	inets are surface mount with a locking door)
R08TC-100	GreenMAX® Relay Cabinet, 8-Relay Size, NEMA 1
R16TC-100	GreenMAX® Relay Cabinet, 16-Relay Size, NEMA 1
R32TC-100	GreenMAX® Relay Cabinet, 32-Relay Size, NEMA 1
R48TC-100	GreenMAX® Relay Cabinet, 48-Relay Size, NEMA 1
Command Modules (incl	udes power supply and main processor unit, option 24VDC Low Voltage Input Card)
RPM00-300	Main Command Module, 100-277VAC, 50/60 Hz, no inputs, LumaCAN3
RPM08-308	Main Command Module with 8-Port Low Voltage Input Card, 100-277VAC, 50/60Hz, LumaCAN3
RPM16-316	Main Command Module with 16-Port Low Voltage Input Card, 100-277VAC, 50/60Hz, LumaCAN
Panel Interiors (all panel	ls are 16-position, rated 30A, 120-230-277/347VAC, 50/60Hz)
R0800-000	Relay Insert Panel, Empty with 8 Spaces
R1600-000	Relay Insert Panel, Empty with 16 Spaces
R1616-1CB	Relay Insert Panel with 16 1-Pole Basic Relays
R1616-1DS	Relay Insert Panel with 16 1-Pole Dimming and Switching Relays
R1616-2CB	Relay Insert Panel with 16 2-Pole RTC Relays
Handheld Display Unit (H	HDU)
RHDU1-300	Handheld Display Unit, Cabinet Mounting, LumaCAN3
RHDU1-001	Handheld Display Unit, Mounting Bracket Requires 2 Gang Back Box
Remote Inputs with Pow	ver Supply (all cabinet power supplies rated 120-277VAC, 50/60Hz)
RLV08-308	Remote Low Voltage Input Cabinet, 8 Inputs, NEMA 1 Enclosure, LumaCAN3
RLV16-316	Remote Low Voltage Input Cabinet, 16 Inputs, NEMA 1 Enclosure, LumaCAN3
Relays	
RELAY-1CB*	GreenMAX® Latching Relay, 1-Pole RTC Basic
RELAY-1DS+	GreenMAX® Latching Relay, 1-Pole dimming and switching, 0-10VDC Dimming, Sinking, LED Contr
RELAY-2CB*	GreenMAX® Latching Relay, 2-Pole RTC
RELAY-BFM	Blank Filler Module
Digital Switches and Col	or Change Kits
RDGSW-1Cx**	GreenMAX® Digital Switch, 1-Button, LumaCAN3
RDGSW-2Cx**	GreenMAX® Digital Switch, 2-Button, LumaCAN3
RDGSW-4Cx**	GreenMAX® Digital Switch, 4-Button, LumaCAN3
RDGSW-8Cx**	GreenMAX® Digital Switch, 8-Button, LumaCAN3
RDGSW-1KS	GreenMAX® Keyswitch
RDGSW-1Ey***	GreenMAX® 1-Button Color Change Kit
RDGSW-2Ey***	GreenMAX® 2-Button Color Change Kit
RDGSW-4Ey***	GreenMAX® 4-Button Color Change Kit
RDGSW-8Ey***	GreenMAX® 8-Button Color Change Kit
RDGSW-1Fy***	GreenMAX® 1-Button Engraved Color Change Kit
RDGSW-2Fy***	GreenMAX® 2-Button Engraved Color Change Kit
RDGSW-4Fy***	GreenMAX® 4-Button Engraved Color Change Kit
RDGSW-8Fy***	GreenMAX® 8-Button Engraved Color Change Kit
Cabinet Accessories	
RGBAR-008	GreenMAX® Voltage Barriers for 8-Relay Cabinets
RGBAR-016	GreenMAX® Voltage Barriers for 16-, 32- and 48-Relay Cabinets

<sup>\*</sup>Replace \* with B for Standard Relay or M for Metering Relay

<sup>+</sup>Replace + with S for Standard Relay or M for Metering Relay

<sup>\*\*</sup>Replace x with the following color codes — (W) White, (I) Ivory, (T) Light Almond and (G) Gray.

\*\*\*Replace y with the following color codes — (W) White, (I) Ivory, (T) Light Almond, (G) Gray, (E) Black, (R) Red



# Track Light Limiting Panel (TLLP)

The Track Light Limiting Panel (TLLP) enables designer lighting to easily meet energy code watt density requirements. Limiting branch circuit volt-amperage rating with the TLLP sets a fixed power consumption limit for lighting installations instead of calculated values based on watts per linear foot of the track. Track lighting can now be specified for as many linear feet of track as desired without violating code specifications.

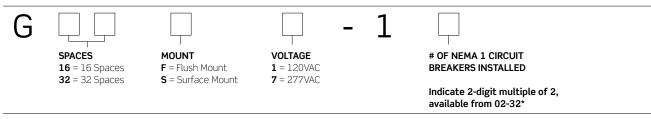
### Features and Benefits

- Enables designer lighting to easily meet energy code watt density requirements
- Assists track lighting schemes and can be used to comply with ASHRAE 90.1, City of Seattle guidelines, and 2019 Title 24, Part 6 track lighting requirements
- California Title 24 2019 Track Light Supplementary Overcurrent Protection Panel
- Simplifies load calculations by using volt-ampere rating of the breaker as opposed to calculated values on the track
- Reduces installation costs
- Available in 16 or 32 circuit panels
- NEMA 1 surface or flush mount enclosure
- Factory configured to your specifications arrives ready to install

## Track Light Limiting Panel (TLLP)



## Track Light Limiting Panel (TLLP) Ordering Information



Note: Specify breaker size and configuration on configuration form.

Note: Completed configuration form must accompany order.

\*Available breaker sizes: 0.5A, 1A, 2A, 3A, 4A, 5A, 6A, 7A, 8A, 10A, 13A, 15A, 16A, 20A, 25A, 30A, 32A, 40A, 50A, 60A



## **Distributed Control**

# Intellect™ Integrated Fixture Control System

Engineered to simplify energy management and code compliance, the Intellect™ Integrated Fixture Control System requires only two devices — Intellect™-enabled fixtures\* and an Intellect™ Keypad Room Controller — to enable advanced luminaire level lighting control (LLLC). Virtually any fixture can be Intellect™-enabled.







### **Keypad Room Controller**

- Primary user interface manages all devices within the room via wireless mesh network
- Intellect Keypad Room Controllers are compatible with Lumina™ RF Devices for advanced room control capabilities including 0-10V dimming, switching and phase cut dimming while meeting energy code requirements



#### **Power Control Modules**



- Operates as a power pack and delivers relay power and 0-10V control to set dimming levels
- · Linear models can be used as a UL924 emergency bypass device by connecting it to the Emergency Sense Pigtail (ZL027-0ES) with the cable provided







- Integrates PIR occupancy/vacancy sensing and photocell technology for daylight harvesting
- Options available for embedding in fixtures or mounting remotely in ceilings



#### **Intellect App**

- The only setup tool needed in an Intellect system
- · Allows for wireless room configuration, monitoring and remote control from an Android or iOS smart device

## Intellect™ Fixture Control System

#### Features and Benefits

### Intellect™ System Features

- Programmable using any Bluetooth-enabled Android or iOS smart device using the Intellect™ App
- Multi-location switching
- Occupancy detection minor motion coverage area is equivalent to fixture coverage area
- Multi-zone daylight harvesting no limit to number of zones
- Programmable Intellect™ Keypad Room Controller buttons — assignable with one of the following behaviors:
  - Scene: collection of Groups at a level
  - Toggle: button turns an individual group ON/OFF
  - Room ON: all lights go to their target level or to MAX if they are not in a daylighting zone -Room OFF - all lights go OFF
  - Raise: lights get incrementally brighter from their current position; lights that are off stay off
  - Lower: lights get incrementally dimmer from current position; lower will only dim the lights to their minimum value
- User controlled fixture Groups no limit to number of Groups
- Integral scene support scenes are collections of Groups, each at their own level, programmed with a fade time and recalled from a pushbutton or the app

### **Easy Specification**

• Specify Intellect-enabled fixtures from Leviton lighting brands or any fixture manufacturer to offer the broadest range of capabilities and compete against any line with intelligent integrated fixtures

### **Easy Energy Savings**

 Intellect™-enabled fixtures offer essential out-of-the-box functionality, self-contained solutions that can be used to comply with IECC, ASHRAE 90.1 and 2019 Title 24, Part 6 dimming, occupancy/vacancy sensing and daylight harvesting requirements

## Easy Layout and Design

- Each Intellect™-enabled fixture integrates a sensor which wireless communicates with the Keypad Room Controller and other Intellect™ devices within the space
- · No additional gateway or hub needed

### **Easy Installation**

- Plug-and-play operation
- Ladderless commissioning via the Bluetooth-enabled Intellect<sup>™</sup> App — the only setup tool needed

### **Easy Operation**

- Configure, monitor and control the system from an Android or iOS smart device the with the Intellect™ App
- Easily program the Keypad Room Controller to meet the lighting needs of any space using the Intellect™ App
- Expand Intellect capabilities with Lumina™ RF Standalone Devices and add wireless control to virtually any ON/OFF or dimming device for advanced room control capabilities including 0-10V dimming, switching and phase cut dimming

Keypad Room Controllers		
Description	Cat. No.	
Intellect™ Decora 1-Button Keypad	ZLDNK-01W	
Intellect™ Decora 2-Button Keypad	ZLDNK-02W	
Intellect™ Decora 4-Button Keypad	ZLDNK-04W	
Intellect™ Decora 8-Button Keypad	ZLDNK-08W	
1 Button Color Change Kit	CKDNK-10y*	
2 Button Color Change Kit	CKDNK-20y*	
4 Button Color Change Kit	CKDNK-40y*	
8 Button Color Change Kit	CKDNK-80y*	
1 Button Color Change Kit	CKDNK-1Ey*	
with Engraving		
2 Button Color Change Kit	CKDNK-2Ey*	
with Engraving		
4 Button Color Change Kit	CKDNK-4Ey*	
with Engraving		
8 Button Color Change Kit	CKDNK-8Ey*	
with Engraving		
Engraved Wallplate	WPDN0-1Ex*	

Note: Wallplates purchased separately, recommend Leviton Cat. No. 80301 screwless wallplates

Intellect™ Power Control Modules	
Description	Cat. No.
Intellect™ Power Control Module	ZL027-N0W
Intellect™ Linear Power Control Module	ZL027-DLE
Emergency Sense Pigtail for use with Intellect™ Linear Power Control Module	ZL027-0ES

Intellect™ Sensor Control Modules	
Description	Cat. No.
Intellect™ PIR Sensor Control Module with Integrated Photocell	ZL00J-D0W
Intellect™ PIR Sensor Head Module with Integrated Photocell	ZL00J-T0W
	'

Cables	
Description	Cat. No.
Extension cable, 12"	ZLAEX-012
Extension cable, 18"	ZLAEX-018
Extension cable, 24"	ZLAEX-024
Extension cable, 30"	ZLAEX-030
High temperature extension cable, 18"	ZLAEX-H18
High temperature extension cable, 48"	ZLAEX-H48
High temperature extension cable, 96"	ZLAEX-H96



# GreenMAX® DRC Room Control System

The GreenMAX® DRC Room Control System revolutionizes lighting control by creating a scalable, distributed control system that can manage different types of lighting for virtually any application.

## GreenMAX® DRC Family with Sapphire™



## **GreenMAX® DRC**



#### **GreenMAX® DRC Digital Keypads**

- Permanently installed keypad user interface to the GreenMAX® DRC system
- Multi-location control
- Available in 1-, 2-, 4-, and 8-button configurations
- Custom engraved labeling available on switch buttons and screwless wallplates
- Each button can be individually programmed for ON, OFF, ON/OFF, room raise/lower, last selected scene raise/lower, scene, and other customizable scenes and settings via the GreenMAX® DRC app
- Mounts into a standard-depth wallbox all switches can be installed in a multi-gang application (multi-gang wallplate sold separately)



### Sapphire™ Touch Screen

- Fully customizable user interface that integrates the GreenMAX® DRC Room Control System
- Features LumaCAN connectivity
- 2 low voltage/analog inputs for connecting of occupancy sensors, photocells, etc.



#### **GreenMAX® DRC App**

- For Android and iOS smart devices
- Configures the system as the only setup tool needed
- Wirelessly communicates with system components via WiFi
- Manage devices, create groups, configure daylighting zones, edit scenes, and program digital keypads from the palm of your hand, and effortlessly make adjustments as necessary
- DRC Scheduler feature allows end users to create and add events and schedules to fit the lighting control needs of
- Duplicate settings for like spaces across an entire facility or campus to drastically reduce commissioning time
- Allow users to adjust their individual space's lighting to accommodate preferences and temporary needs through their own smart device while protecting administrative settings with the User Control Interface



### **GreenMAX® DRC Digital Sensor**

- · Occupancy/vacancy detection using PIR technology with a 450 sq ft field of view with an integrated photocell that offers light level detection, 0-100 footcandles
- Interfaces to the GreenMAX® DRC system via the LumaCAN port for simplified specification and installation
- Integrated occupancy/vacancy and photocell design offers more capabilities while requiring less equipment and wiring

**Energy Management** 

Continued from previous page

## **GreenMAX® DRC**



#### **Analog Occupancy/Vacancy Sensors**

- Monitor spaces for occupancy, and switch/dim lights ON/OFF accordingly, or provide manual-ON/auto-OFF control in vacancy mode
- Available with passive infrared, ultrasonic or multi-technology sensing to accommodate any size and style
  of application
- Industry's largest number of SKUs include ceiling mount, wall mount, fixture mount, wall switch, low and line voltage, self-contained, and wireless versions to cover any and all end user needs and preferences



#### **GreenMAX® DRC Phase Control Dimmer**

- Incorporates 2-wire phase control loads into GreenMAX® DRC systems
- 1-4 channel LumaCAN forward or reverse phase control dimmer
- Control wall sconces, chandeliers, pendant lighting, track lighting, and more for precise dimming of elegant, modern light fixtures
- Utilizes Leviton High Inrush Stability (H.I.S.) circuitry for increased reliability
- Connects via the LumaCAN network via RJ45 connectors and CAT6 cabling
- AMPlify feature combine channels for increased capacity
- Each channel phase selectable supports LED loads at full capacity



#### **GreenMAX® DRC 0-10V Smart Pack**

- Enables switching and 0-10V dimming control of a single zone of fixtures
- Supports plug load control applications
- Eliminates the need to run wires back to a cabinet, saving on installation and equipment costs
- Single channel device (1) 0-10V output plus (1) relay
- Connects via the LumaCAN network using RJ45 connectors and CAT6 cabling
- 0-10V control can be Class 1 or Class 2 wiring



#### **GreenMAX® DRC LumaCAN to DALI Gateway**

- Interface to DALI fixtures
- Converts LumaCAN channels to DALI driver control
- Short address assignment to DALI devices
- Fixed fade time for each device
- (2) independent DALI bus on one gateway



#### **GreenMAX® DRC Analog Interface (AI)**

- Interface to non-LumaCAN devices, including sensors, photocells, and low-voltage switches
- Demand response interface
- Fire alarm/security system interface
- Powered from LumaCAN network



#### **Luma-Net to LumaCAN Gateway**

- Bidirectional protocol converts from Luma-Net to LumaCAN and vice versa
- Processes channel, group and dimmer status messages
- 250 nodes per subnet with 254 subnets



## **GreenMAX® DRC Wired Line and Low Voltage Room Controllers**

- One room controller required in every room
- System operation and power control receives commands from user interfaces (smart device, sensors, keypads, touchscreen)
- Serves as the "brain" of any GreenMAX DRC Room Control System by coordinating the energy management functions within the room



- Line voltage model includes relay and 0-10V control and installs into knockout or acts as cover for a 4" square box
- Connects to building WiFi network for configuration and communication between rooms, or is its own access point for direct connection



#### **GreenMAX® DRC Wireless Keypad Room Controller**

- · Acting as a room controller, these devices implement energy management business logic for the controlled space
- $\bullet$  Wireless mesh network for connection to GreenMAX  $^{\! \otimes}$  DRC, Intellect, and Lumina RF devices
- Wireless interface for configuration, control, and status monitoring
   Two operating modes: access point for standalone operation, and Wi-Fi client for connecting to building network
- Use any Android or iOS for configuration using the GreenMAX® DRC App



## **GreenMAX® DRC**

#### **Features and Benefits**

- Enables a full suite of lighting control capabilities including programmable room behaviors, occupancy/vacancy sensing, daylight harvesting, scene control, and multi-location control
- Fully configurable using the GreenMAX® DRC App via any WiFi-enabled Android or iOS smart device
- Secures data with fully encrypted communication privacy is guaranteed as unauthenticated queries and commands are rejected
- Flexibility to grow and change with your business and its evolving needs as a scalable solution; add additional components at any time to modify or expand the system, and re-configure rooms and zones from the convenience of your smart device
- User Access Controls allow for employees or tenants to use their own app interface to set scenes and make adjustments, while keeping the overall facility secure — the perfect balance of pre-configured maintained settings and human-centric lighting
- Plug-and-play, Category 6, RJ45 hardwired digital network

## **User Interfaces**

Description	Cat. No.
GreenMAX® DRC Digital Keypad, 1-button, LumaCAN	DRKDN-C1W
GreenMAX® DRC Digital Keypad, 2-button, LumaCAN	DRKDN-C2W
GreenMAX® DRC Digital Keypad, 4-button, LumaCAN	DRKDN-C4W
GreenMAX® DRC Digital Keypad, 8-button, LumaCAN	DRKDN-C8W
GreenMAX® DRC 2-Button Color Change Kit	CKDNK-10y
GreenMAX® DRC 4-Button Color Change Kit	CKDNK-40y
GreenMAX® DRC 8-Button Color Change Kit	CKDNK-80y
GreenMAX® DRC 1-Button Color Change Kit with Engraving	CKDNK-1Ey
GreenMAX® DRC 2-Button Color Change Kit with Engraving	CKDNK-2Ey
GreenMAX® DRC 4-Button Color Change Kit with Engraving	CKDNK-4Ey
GreenMAX® DRC 8-Button Color Change Kit with Engraving	CKDNK-8Ey
Sapphire™ Touch Screen	
Description	Cat. No.
7-in Touchscreen, capacitive interface, no faceplate included	TS007-000
7-in Touchscreen Color Change Kit, black faceplate	TS007-C0E
7-in Touchscreen Color Change Kit, light almond faceplate	TS007-C0T
7-in Touchscreen Color Change Kit, white faceplate	TS007-C0W
7-in Touchscreen Locking Cover, black	TS007-LCE
GreenMAX® DRC App	
Description	Cat. No.
For use with Android and iOS smart devices; visit www.leviton.com/apps to download	_

### Sensors

Occupancy/Vacancy Sensors	
Description	Cat. No.
GreenMAX® DRC Digital Sensor, 1,500 sq ft, white	OSR05-ICW
Visit www.leviton.com/sensors for selection, or reference the Leviton Sensor Guide for a full selection	_

## **Load Controls**

0-10V Smart Pack	
Description	Cat. No.
GreenMAX® DRC Smart Pack, 0-10V, 120-277VAC, 50/60 Hz, 20A max, 100mA sink current	DRD07-ED0
Phase Control Dimmers	
Description	Cat. No.
GreenMAX® DRC LumaCAN DIN Rail Dimmer 2 Channel, 3.5A per channel, 120-277VAC, 50-60H*	DRDDP-A40
GreenMAX® DRC Phase Control Dimmer	DRDDP-A40

<sup>\*</sup>Requires DIN rail enclosure, purchased separately

LumaCAN to DALI Gateway	
Description	Cat. No.
LumaCAN to DALI Gateway, DIN rail mount	DRCDD-0L0
Analog Interface (AI)	
Description	Cat. No.
GreenMAX® DRC 2-Port AI, LumaCAN, DIN rail or surface mount	DRIDO-C02
GreenMAX® DRC 2-Port AI, mounted to blank plate for installation onto 4-11/16" back box	DRIDO-CB2
Luma-Net to LumaCAN Gateway	
Description	Cat. No.
Luma-Net to LumaCAN Gateway	NP00G-000

## **Room Controllers**

Wired Room Controller	
Description	Cat. No.
GreenMAX® DRC Room Controller with interface to LumaCAN, Lumina™ RF/ZigBee, and WiFi networks, 120-277VAC, 50/60Hz, 0-10V, line voltage	DRC07-ED0
GreenMAX® DRC Room Controller with interface to LumaCAN, Lumina™ RF, ZigBee, and WiFi networks, 347VAC, 60 Hz, 0-10V, line voltage	DRC00-030
GreenMAX® DRC Room Controller with interface to LumaCAN, Lumina™ RF, ZigBee, and WiFi networks, DIN rail form factor, low voltage	DRC00-0L0
Wireless Keypad Room Controller	
Description	Cat. No.
GreenMAX DRC Wireless Keypad Room Controller, 1-Button	DRKDN-U1W
GreenMAX DRC Wireless Keypad Room Controller, 2-Button	DRKDN-U2W
GreenMAX DRC Wireless Keypad Room Controller, 4-Button	DRKDN-U4W
GreenMAX DRC Wireless Keypad Room Controller, 8-Button	DRKDN-U8W

## **DIN Rail Cabinets**

Room Controller	
Description	Cat. No.
DIN Rail Rack Mount Enclosure, small, 14x10 in with (1) 12.9-in rail	DINRK-001
DIN Rail Rack Mount Enclosure, medium, 21x25 in with (3) 13.7-in rails	DINRK-A03
DIN Rail Rack Mount Enclosure, large, 25x48 in with (5) 19.5-in rails	DINRK-A06



# **VerifEye™ Submetering Solutions**

# **SMARTer Metering. SMARTer Control. REAL Savings.**

VerifEye™ delivers a comprehensive line of leading-edge submeters, communication products, and software solutions as the key building blocks to help you better manage costs and conserve energy. The cost-effective scalability and integration provide you with timely solutions that can be expanded for future needs. Submetering expertise, service and support from start to finish from a name you can trust.

## VerifEye™ Family



Continued on next page

## **SPOTLIGHT**

VerifEye™ Submetering Solutions

Easy to install and maintenance-free, VerifEye™ Submetering Solutions is a complementary strategic addition to the Leviton lighting controls family. Leviton now offers solutions to meet all measurement & verification (M&V) based opportunities such as smart metering and LEED rating achievement. For more information go to **leviton.com/verifeye**.



# VerifEye™ Submetering Solutions





## **VerifEye™ Submetering Solutions**

## The Benefits of Submetering

From tenant billing to energy measurement & verification (M&V) software solutions, VerifEye offers cost-effective scalability and integration to provide you with the solution you need today that can be expanded in the future. This seamless solution enables smart metering, meets code compliance requirements and simplifies the complexities of allocating energy costs and billing tenants. Building owners and managers can minimize usage of electric, water, gas and other utilities for long-term cost savings. Organizations that monitor and manage energy usage are better able to compete, to achieve real savings, and to meet code compliance and building efficiency standards such as LEED, California Title 24 and ASHRAE 90.1.

For additional energy savings, combine VerifEye with Leviton lighting controls for a complete energy management solution from a single source..

#### **Excellence Comes Standard**

- · Load profiling & benchmarking
- Tenant billing/cost allocation
- Measurement & verification (M&V)
- Energy conservation programs
- Building codes and standards compliance
- Green initiatives including LEED certification
- Federal government energy program compliance
- Building management systems (AMR/BMS/EMS) integration

## Leviton Metering Philosophy

### **Consultative Approach**

Each project is tailored to each customer's needs — from a basic meter hardware system to an advanced communication system that includes BAS/BMS integration

#### **Open Protocol**

Options for future upgrades and additions are available with Leviton's flexible solution — no need to purchase an entire new system

### Scalable System

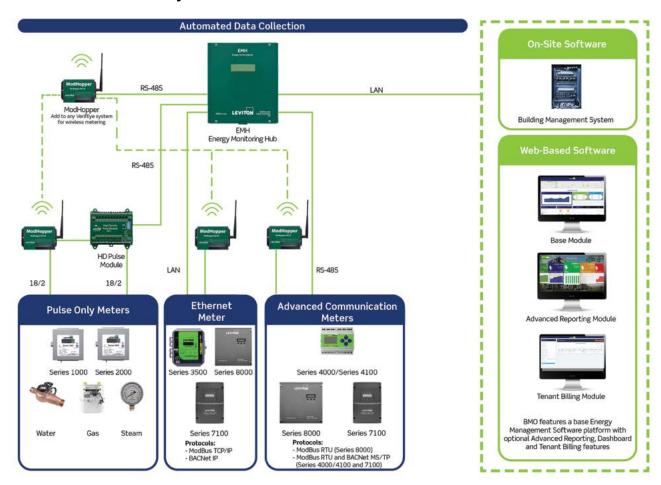
Ease of communication with use of Leviton Data Acquisition Communication equipment

## VerifEye™ Submetering Solutions **System Architecture**

Continued from previous page

### **VerifEye™ System Architecture**

Leviton offers a versatile range of meters, communication products and software engineered to suit a wide range of data requirements and applications. Below is an overview of a typical submetering system, product choices may vary depending upon specific system requirements. See the pages listed below, or for more information visit www.leviton.com/verifeye.



Comparison Guide | Residential/Commercial



Continued from previous page

## **VerifEye™ Metering Solutions Quick Comparison Guide**

	Multi-Family Residential			Residential/Commercial		
Specifications	Mini Meter™ Kits	Mini Meter Kits with AMR	Series 8000 Multiple Point High Density Meter	Series 7000 and 7100 Advanced Branch Circuit Monitor		
	kWh Meter		kWh Meter			
Phase/Wiring	1PH 2W 1PH 3W		1PH 2W 1PH 3W WYE 3PH 3W Delta 3PH 4W WYE	1P/2W 2P/3W 3P/4W 3P/3W Delta		
Voltage Configurations	120/208/240		120/208 120/240 240/416 277/480 480*	90-346 Volts AC Line-to-Neutral, 600V Line-to-Line		
Amperage	100-200A	200A	100-5000A	50-4000A		
Measuring Parameters	kWh		kWh Delivered and Received kVarh Delivered and Received VAR PF Peak Demand Present Demand Volts Amps Watts	Volts, Amps, kW, kVAR, kVA, aPF, dPF, kW demand, kVA demand, Import (Received), kWh, Export (Delivered), kWh, Net kWh, Import (Received) kVAh, Export (Delivered) kVAh, Net kVAh, Import (Received), kVARh, Export (Delivered), kVARh, Export (Delivered), kVARh, Net kVARh, THD Theta, Frequency		
Communications Protocol (Standard)	Isolated Pulse Output	Embedded Wireless Transmitter	ModBus TCP ModBus RTU (RS-485) BACnet IP	ModBus RTU ModBus TCP BACnet MS/TP BACnet		
Current Transformer Options	Split Core Solid Core	Solid Core	Split Core Solid Core	Split Core Solid Core Rogowski Coil		
Enclosure Options	OEM Module Indoor Plastic Flush Mount NEMA 1 Outdoor NEMA 4x MMU NEMA 4x	Indoor Flush Mount Indoor Surface Mount	Indoor JIC Steel NEMA 1	Indoor Plastic NEMA 1 Panel Mount — no enclosure		
Display Type	LCD or Mechanical Counter	LCD	Local LCD, Scroll	Local LCD, Scroll Buttons		
Accuracy	C12.10 +/- 0.5% with paired CTs	C12.20 0.5% with paired CTs	C12.20 +/- 0.5%	C12.20 /0.2%		
Multiple Meter Unit (MMU) Configuration	Medium: 2-4 Meters Large: 5-8 Meters Extra-Large: 9-19 Meters	_	3PH: 8x3 1PH 3W: 12x2, 9x2, 6x2, 3x2 1PH: 24x1	48 Inputs Configurable 3PH — 16x3 / 2PH — 24x2 1PH — 48x1		
Data Storage	Last Reading — Cumulative		Last Reading — Cumulative, Data in 15 minute intervals	Last reading — User Selectable		

 $<sup>\</sup>hbox{``With potential transformer-- consult factory for availability}\\$ 



Mini Meter™ Kits





LEVITON.

Series 7000



Continued from previous page

## **VerifEye™ Metering Solutions Quick Comparison Guide**

				Commercial			
Specifications	Series 1 Single P Meter K	hase	Series 2000 3-Phase Meter Kits	Series 3500 Multi-Function Ethernet Meter Kits	Series 4000 Industrial ModBus RTU Meter Kits	Series 4100 Industrial ModBus RTU Meter Kits	
	kWh Me	ter w/Optio	nal Demand	kWh Meter Communications Protocol	s kWh Meter		
Phase/Wiring	1PH 2W	1PH 3W	3PH 4W WYE	3PH 3W Delta 3PH 4WYE	3PH 3W/4W		
Voltage Configurations	120 277	120/208 120/240 277/480	120/208 277/480	Universal Voltage (120-480V)	Universal Voltage (90 L-N Voltage 347VAC	-600)	
Amperage	100-800	A	100-1200A 100, 200, 400, 800, 1200	100-5000A MAX L-N Voltage 277VAC	Split Core: 100, 200, 4 Rogowski: 50-5000A	400, 800A	
Measuring Parameters	kWh Optional kW (peak demand reset)			kWh kW (peak demand reset) Meter Totals: kVAR, kVA, Power Factor & kW. By Phase: Volts, Watts, Amps, Power Factor Interval Data	Voltage L-L, L-N, Curre Frequency Series 4100 Bi-direc Power factor: 3 phase Present power demar and apparent (kVA). P	Series 4000: kVARh, kW, kVAR, kVA, Voltage L-L, L-N, Current, Power Factor, Frequency Series 4100 Bi-directional: kW, kVA and kVAR Power factor: 3 phase average & per phase Present power demand: Real (kW), reactive (kVAR) and apparent (kVA). Parameters are both delivered and received for the S4100 Meter	
Communications Protocol (Standard)	Isolated Pulse Output, 10WH or 100WH pulse		, 10WH or	Isolated Pulse Output ModBus TCP/IP BACnet IP	ModBus/RTU	ModBus/RTU w/Pulse Output or BACnet MS/TP with Pulse Input	
Current Transformer Options	Split Core Solid Cor				Split Core: .333V seco Rogowski Coil: lengths	ondary output only s available in 12", 18" and 24"	
Enclosure Options	Indoor JIC Steel Outdoor NEMA 4x		Indoor JIC Steel NEMA 1 Outdoor NEMA 4x MMU JIC Steel NEMA 1	Indoor JIC Steel NEMA 1 Outdoor NEMA 4x	Indoor DIN Rail-Mount Outdoor NEMA 4X		
Display Type	Local LCI	)	•	Local LCD, Scroll Button	LCD, Scroll Buttons		
Accuracy	C12.10 a	and C12.20 +	/- 0.5%	C12.10 and C12.20 +/- 0.5%	C12.20 0.2%		
Data Storage		ding — Cumu with Key Res	ılative, Peak set (optional)	Last Reading — Cumulative, Peak Demand with Key Reset, Data in 15 minute Intervals	Last Reading — Prese for kW and kVAR	Last Reading — Present and Peak Demand	

For more information visit www.leviton.com/verifeye







Series 2000



Series 3500



Series 4000 and 4100

## **VerifEye™ Series 1000 Single Phase Meter Kits**

- Kits include meter, specified enclosure and required current transformers
- kWh meter with optional demand functionality (includes reset key)
- 100-800 Amps
- Isolated Pulse output (standard)
- Large LCD display
- ANSI 0.5% revenue grade accuracy class
- Utilizes split and solid core current transformers (CTs) that are certified to all revenue grade accuracy standards
- Up to three sets of split core or solid core CTs per phase can be paralleled per meter
- UL listed

Series 1000 Single Phase Meter Kits* — Indoor Enclosure					
Voltage	Amps	CTs Included	Cat. No.		
120V 1PH 2W	100	1 Split CT	1K120-01W		
	200	1 Split CT	1K120-02W		
	400	1 Split CT	1K120-04W		
	800	1 Split CT	1K120-08W		
	100	1 Solid CT	1K120-1SW		
	200	1 Solid CT	1K120-2SW		
120/208V 1PH 3W or	100	2 Split CTs	1K240-01W		
120/240V 1PH 3W (Split Phase)	200	2 Split CTs	1K240-02W		
	400	2 Split CTs	1K240-04W		
	800	2 Split CTs	1K240-08W		
	100	2 Solid CTs	1K240-1SW		
	200	2 Solid CTs	1K240-2SW		
277V 1PH 2W	100	1 Split CT	1K277-01W		
	200	1 Split CT	1K277-02W		
	400	1 Split CT	1K277-04W		
	800	1 Split CT	1K277-08W		
	100	1 Solid CT	1K277-1SW		
	200	1 Solid CT	1K277-2SW		

Series 1000 Single Phase Meter Kits* — Outoor Enclosure					
Voltage	Amps	CTs Included	Cat. No.		
120V 1PH 2W	100	1 Split CT	10120-01W		
	200	1 Split CT	10120-02W		
	400	1 Split CT	10120-04W		
	800	1 Split CT	10120-08W		
120/208V 1PH 3W or	100	2 Split CTs	10240-01W		
120/240V 1PH 3W (Split Phase)	200	2 Split CTs	10240-02W		
	400	2 Split CTs	10240-04W		
	800	2 Split CTs	10240-08W		
277V 1PH 2W	100	1 Split CT	10277-01W		
	200	1 Split CT	10277-02W		
	400	1 Split CT	10277-04W		
	800	1 Split CT	10277-08W		





Indoor Series 1000 Single Phase Meter



Outdoor Series 1000 Single Phase Meter

## Series 2000 3-Phase Meters | Commercial

### **VerifEye™ Series 2000 3-Phase Meter Kits**

- Kits include meter, specified enclosure and required current transformers
- kWh meter with optional demand functionality (includes reset key)
- 120/208V or 277/480V 3PH 4W WYE only
- 100-1200A
- Isolated pulse output standard
- Large LCD Display
- Revenue grade accuracy: 0.5%
- Utilizes split and solid core current transformers (CTs) that are certified to all revenue grade accuracy standards
- Up to three sets of solid or split core CTs per phase can be paralleled per meter
- UL listed

Series 2000 3-Phase Meter Kits* — Indoor Enclosure					
Voltage	Amps	CTs Included	Cat. No.		
120/208V	100	3 Split CTs	2K208-01W		
3PH 4W WYE	200	3 Split CTs	2K208-02W		
kWh Meter	400	3 Split CTs	2K208-04W		
	800	3 Split CTs	2K208-08W		
	1200	3 Split CTs	2K208-12W		
	100	3 Solid CTs	2K208-1SW		
	200	3 Solid CTs	2K208-2SW		
277/480V	100	3 Split CTs	2K480-01W		
3PH 4W WYE	200	3 Split CTs	2K480-02W		
kWh Meter	400	3 Split CTs	2K480-04W		
	800	3 Split CTs	2K480-08W		
	1200	3 Split CTs	2K480-12W		
	100	3 Solid CTs	2K480-1SW		
	200	3 Solid CTs	2K480-2SW		
120/208V	100	3 Split CTs	2K208-01D		
3PH 4W WYE	200	3 Split CTs	2K208-02D		
Demand Meter	400	3 Split CTs	2K208-04D		
	800	3 Split CTs	2K208-08D		
	1200	3 Split CTs	2K208-12D		
277/480V	100	3 Split CTs	2K480-01D		
3PH 4W WYE	200	3 Split CTs	2K480-02D		
Demand Meter	400	3 Split CTs	2K480-04D		
	800	3 Split CTs	2K480-08D		
	1200	3 Split CTs	2K480-12D		



Indoor Series 2000 3-Phase Meter



Outdoor Series 2000 3-Phase Meter

Series 2000 3-Phase Meter Kits* — Outdoor Enclosure					
Voltage	Amps	CTs Included	Cat. No.		
120/208V	100	3 Split CTs	20208-01W		
3PH 4W WYE	200	3 Split CTs	20208-02W		
kWh Meter	400	3 Split CTs	20208-04W		
	800	3 Split CTs	20208-08W		
	1200	3 Split CTs	20208-12W		
277/480V	100	3 Split CTs	20480-01W		
3PH 4W WYE	200	3 Split CTs	20480-02W		
kWh Meter	400	3 Split CTs	20480-04W		
	800	3 Split CTs	20480-08W		
	1200	3 Split CTs	20480-12W		

<sup>\*</sup>Kits include meter, specified enclosure and required current transformers

## **VerifEye™ Series 3500 Advanced Multi-Function Meter Kits**

#### **Features and Benefits**

- Kits include meter, specified enclosure and required current transformers
- Advanced communications protocols:
  - Enabled by Ethernet, uses ModBus TCP/IP and BACnet IP
  - Isolated pulse output
- Integrates easily with building management systems
- Revenue grade accuracy: 0.5% accuracy class
- Delivers universal voltage performance
- 208/480V 2PH 2W, 120/208V 2PH 3W, 240/480V 3PH 3W, 120/208V, 277/480V 3PH 4W, 240/480V 3PH 4W DELTA
- 100-5000A
- Outputs kWh, Demand Instant & Peak, Per Phase & Total kWh, kW, kVAR, VAR, AMPS Interval Data
- Certified to all applicable standards of ANSI C12.20 & C12.10
- Utilizes split and solid core current transformers (CTs) that are certified to all revenue grade accuracy standards
- Up to three sets of CTs per phase can be paralleled per meter

## VerifEye™ Series 3500 Advanced Multi-Function Ethernet Meter Kits

Series 3500 Meter Kits* — Indoor Enclosure						
Voltage	Amps	CTs Included	Cat. No.			
208-480VAC	100	3 Split CTs	3KUMT-01M			
3P 3W/4W	200	3 Split CTs	3KUMT-02M			
ModBus TCP/BACnet IP	400	3 Split CTs	3KUMT-04M			
	800	3 Split CTs	3KUMT-08M			
	1600	3 Split CTs	3KUMT-16M			
	100	3 Solid CTs	3KUMT-1SM			
	200	3 Solid CTs	3KUMT-2SM			
	400	3 Solid CTs	3KUMT-4SM			
	3000	3 Split CTs	3KUMT-30M			
	5000	3 Split CTs	3KUMT-50M			



Indoor Series 3500 Advanced Multi-Function

<sup>\*</sup>Kits include meter, specified enclosure and required current transformers

Series 3500 Meter Kits* — Outdoor Enclosure						
Voltage	Amps	CTs Included	Cat. No.			
208-480VAC	100	3 Split CTs	30UMT-01M			
3P 3W/4W	200	3 Split CTs	30UMT-02M			
ModBus TCP/BACnet IP	400	3 Split CTs	30UMT-04M			
	800	3 Split CTs	30UMT-08M			
	1600	3 Split CTs	30UMT-16M			
	100	3 Solid CTs	30UMT-1SM			
	200	3 Solid CTs	30UMT-2SM			
	3000	3 Split CTs	30UMT-30M			
	400	3 Solid CTs	30UMT-4SM			
	5000	3 Split CTs	30UMT-50M			

<sup>\*</sup>Kits include meter, specified enclosure and required current transformers



### VerifEye™ Series 4000 Industrial ModBus Meter Kits

#### **Features and Benefits**

- Kits include meter, specified enclosure and Split Core or Rogowski Coil current transformers
- Industrial Temperature Range -22°F to 158°F (-30°C to 70°C)
- 50/60Hz
- 90-600V versatility including 347V (L-N) and 600V (L-L)
- ANSI 12.20 0.5% Accuracy, IEC 62053-22 Class 0.5S
- Amperages
  - Split Core: 100, 200,400, 800A
  - Rogowski Coil: 50-5000A
- User-enabled password protection to protect meter from tampering

- Bright, backlit LCD for installation in dark areas and viewing real time data
- DIN Rail-Mount
- NEMA 4X Enclosure
- AMR/BAS system integration via ModBus RTU, RS-485 2-wire with shield
- Tenant cost allocation
- Energy conservation and cost reduction
- Green building initiatives and government mandates
- Measurement and verification
- Load profiling and benchmarking

Series 4000 Meter Kits — Din Rail-Mount						
Voltage	Amps	CTs Included	Cat. No.			
Universal 3PH 3W/4W	100	3 Split Core CTs	4KUMR-01M			
	200	3 Split Core CTs	4KUMR-02M			
	400	3 Split Core CTs	4KUMR-04M			
	800	3 Split Core CTs	4KUMR-08M			
	50-5000	3, 12" Rogowski Coil CTs	4KU MR-R12			
	50-5000	3, 18" Rogowski Coil CTs	4KUMR-R18			
	50-5000	3, 24" Rogowski Coil CTs	4KUMR-R24			

Stand Alone Meters						
Voltage	Amps	CTs Included	Cat. No.			
Universal 3PH 3W/4W	100, 200, 400, 800	Split Core CTs Only	4KUMR-00M			
	50-5000	Rogowski Coil CTs Only	4KUMR-00R			



Series 4000 DIN Rail



Rogowski Coil CT

Series 4000 3-Phase Meters | Commercial



Continued from previous page

### VerifEye™ Series 4000 Industrial ModBus Meter Kits

Series 4000 Outdoor NEMA Enclosure						
Voltage	Amps	CTs Included	Cat. No.			
Universal 3PH 3W/4W	100	3 Split Core CTs	40UMR-01M			
	200	3 Split Core CTs	40UMR-02M			
	400	3 Split Core CTs	40UMR-04M			
	800	3 Split Core CTs	40UMR-08M			
	50-5000	3, 12" Rogowski Coil CTs	40UMR-R12			
	50-5000	3, 18" Rogowski Coil CTs	40UMR-R18			
	50-5000	3, 24" Rogowski Coil CTs	40UMR-R24			

Series 4000 Components				
Amps	Description	Cat. No.		
100	Split Core CTs	CTV01-K21		
200	Split Core CTs	CTV02-K21		
400	Split Core CTs	CTV04-K40		
800	Split Core CTs	CTV08-K40		
_	Fuse Pack, 1/2A, 600VAC, slow blow	CTV00-FK3		
50-5000	12" Rogowski Coil CTs	CRV50-K62		
50-5000	18" Rogowski Coil CTs	CRV50-K93		
50-5000	24" Rogowski Coil CTs	CRV50-KC2		



Series 4000 Outdoor





Rogowski Coil CT

## **SPOTLIGHT**

Leviton Energy Code Apps

ASHRAE 90.1 and Title 24 apps, gain easy access to a wealth of the lighting control code requirements on your mobile device. These valuable reference tools allow you to search by application, code or article language and contain recommended Leviton solutions. Get inspired to design energy code compliant applications by viewing diagrams and summaries of the requirements for recommended solutions. Go to ashrae.leviton.com or title24.leviton.com.



Series 4100 Meters | Commercial

### VerifEye™ Series 4100 Bidirectional ModBus RTU and BACnet MS/TP Meter Kits

The VerifEye™ Series 4100 Bidirectional ModBus RTU and BACnet MS/TP Meter Kits feature bidirectional monitoring specifically designed for renewable energy applications. The Series 4100 Meter Kits measure power imported from the utility grid and power exported from renewable energy sources like solar panels. The Series 4100 Meter Kits are available in a Standalone DIN Rail-Mount or NEMA 4X enclosures and come with either split core or flexible rope-style Rogowski Current Transformers (CTs).

- Bidirectional energy monitoring
- Industrial temperature range: -22-158°F (-30-70°C)
- 50/60 Hz
- Versatile input voltage: 90-600V including 347V (L-N) and 600VAC (L-L) with fewer models to stock
- Options for 100, 200, 400 and 800A Split Core CTs and Rogowski CTs (20-5000A)
- DIN Rail-Mount for easy installation
- One device serves multiple locations

- User-enabled password protection to protect meter from tampering
- Bright, backlit LCD for installation in dark areas and viewing real time data
- Energy monitoring for AMR/BAS/BMS/EMS systems
- Renewable energy applications such as solar panels and wind
- AMR/BAS system integration via ModBus RTU or BACnet MS/TP (over RS-485 serial)
- CSI approval for California Solar Initiative

Series 4100 Indoor — DIN Rail-Mount ModBus Meter Kits				
Voltage	Amps	CTs Included	Cat. No.	
Universal	100	Split Core CTs	4DUMR-01M	
3PH 3W/4W	200	Split Core CTs	4DUMR-02M	
ModBus	400	Split Core CTs	4DUMR-04M	
	800	Split Core CTs	4DUMR-08M	
	50-5000	12" Rogowski Coil CTs	4DUMR-12R	
	50-5000	18" Rogowski Coil CTs	4DUMR-18R	
	50-5000	24" Rogowski Coil CTs	4DUMR-24R	



Series 4100 Indoor



Series 4100 Indoor with Enclosure

Series 4100 Indoor — DIN Rail-Mount BACnet MS/TP Meter Kits					
Voltage	Amps	CTs Included	Cat. No.		
Universal	100	Split Core CTs	4DUBM-01B		
3PH 3W/4W	200	Split Core CTs	4DUBM-02B		
BACnet/	400	Split Core CTs	4DUBM-04B		
MS/TP	800	Split Core CTs	4DUBM-08B		
	50-5000	12" Rogowski Coil CTs	4DUBM-12R		
	50-5000	18" Rogowski Coil CTs	4DUBM-18R		
	50-5000	24" Rogowski Coil CTs	4DUBM-24R		

Series 4100 Meters | Commercial



Continued from previous page

### VerifEye™ Series 4100 Bidirectional ModBus RTU and BACnet MS/TP Meter Kits

Series 4100 Outdoor — NEMA Enclosure ModBus Meter Kits				
Voltage	Amps	CTs Included	Cat. No.	
Universal	100	Split Core CTs	410UM-01M	
3PH 3W/4W	200	Split Core CTs	410UM-02M	
ModBus	400	Split Core CTs	410UM-04M	
	800	Split Core CTs	410UM-08M	
	50-5000	12" Rogowski Coil CTs	410UM-12R	
	50-5000	18" Rogowski Coil CTs	410UM-18R	
	50-5000	24" Rogowski Coil CTs	410UM-24R	

Series 4100 Outdoor — NEMA Enclosure BACnet MS/TP Meter Kits					
Voltage	Amps	CTs Included	Cat. No.		
Universal	100	Split Core CTs	410UB-01B		
3PH 3W/4W	200	Split Core CTs	410UB-02B		
BACnet/	400	Split Core CTs	410UB-04B		
MS/TP	800	Split Core CTs	410UB-08B		
	50-5000	12" Rogowski Coil CTs	410UB-12R		
	50-5000	18" Rogowski Coil CTs	410UB-18R		
	50-5000	24" Rogowski Coil CTs	410UB-24R		

## **SPOTLIGHT**

High Density Branch Circuit Monitor

Take advantage of the configuration flexbility of the Series 7100 high density platform to address a wide variety of metering applications. For more information go to **leviton.com/verifeye**.





Mini Meters | Multi-Family Residential

### **VerifEye™ Mini Meter Kits**

#### **Equitable Tenant Billing**

Some multi-tenant residential properties include energy costs in rental fees and generally charge tenants for energy based on the square footage occupied. To be truly equitable, tenants should pay only for what they actually use. With Leviton VerifEye™ Mini Meters, building managers can easily and fairly track and allocate energy usage costs to multiple tenants, as well as recoup energy expenses from common-use areas (parking lots, hall lighting, etc.). Tenants benefit by paying only for the energy they use; and when they focus on conserving energy, they can see direct financial benefits from their efforts.

#### **Features and Benefits**

- Kits include meter, specified enclosure and required current transformers
- kWh Meter
- 100-200 Amps
- Pulse Output standard
- Available in indoor flush mount and surface mount enclosures and NEMA 4X outdoor individual meter enclosures
- Select surface mount and flush mount models include built in tamper proof switch or built in wireless AMR and temperature sensing capabilities
- Revenue grade accuracy: 0.5% accuracy class
- Use with solid core CTs to achieve 0.5% accuracy also available with split core CTs
- Up to three sets of CTs per phase can be paralleled per meter with no multipliers
- Components of Mini Meter Kits are UL/cUL Listed Energy Usage Monitor per CCN FTRZ

#### Mini Meter Kits

Mini Meter Kits — Indoor Flush Mount Enclosure					
Voltage	Amps	CTs Included	Cat. No.		
120/208V 3W or	100A	2 Solid CTs	MK240-1SW		
120/240V 1PH 3W (Split Phase)	200A	2 Solid CTs	MK240-2SW		
Mini Meter Kits — Outoor Encl	Mini Meter Kits — Outoor Enclosure				
Voltage	Amps	CTs Included	Cat. No.		
120/208V 3W or	100A	2 Solid CTs	M0240-1SW		

Mini Meter Kits — Outoor Enclosure				
Voltage	Amps	CTs Included	Cat. No.	
120/208V 3W or	100A	2 Solid CTs	M0240-1SW	
120/240V 1PH 3W	200A	2 Solid CTs	M0240-2SW	
(Split Phase)				
120/208V 2PH 3W or	100A	2 Split CTs	M0240-01W	
120/240V 1PH 3W	200A	2 Split CTs	M0240-02W	
(Split Phase)				

NOTE: Kits include meter, specified enclosure and required current transformers

Mini Meter Kits — Indoor Flush Mount Enclosure				
Voltage	Amps	CTs Included	Cat. No.	
120/240 1PH/3W Split Phase,	100A	2 Solid CTs	MK240-1SW	
120/208 2PH/3W				
120/208/240V 1PH 3W	200A		MK240-2SW	
			6P201-C02	

NOTE: All kits include meter, specified enclosure and Current Transformers (CTs)







Multiple Meter Units | Multi-Family Residential



Continued from previous page

#### VerifEye™ Mini Meter Kits

Mini Meter Kits — Indoor Surface Mount Enclosure			
Voltage	Amps	CTs Included	Cat. No.
120/240 1PH/3W Split Phase, 120/208 2PH/3W	200A	2 Solid CTs	6PSMT-C02

Mini Meter Kits — Outdoor Enclosure			
Voltage	Amps	CTs Included	Cat. No.
120/240 1PH/3W Split Phase,	100A	2 Solid CTs	M0240-1SW
120/208 2PH/3W	200A		M0240-2SW
120/240 1PH/3W Split Phase,	100A	2 Split CTs	MO240-01W
120/208 2PH/3W	200A		M0240-02W

**NOTE:** All kits include meter, specified enclosure and Current Transformers (CTs)

Mini Meter Kits — LCD Module			
Voltage	Amps	CTs Included	Cat. No.
Single Element Mini Meter			
120V 1PH 2W 0.1kWh	100A	1 Solid CT	MSNCT-1SC
	100A	1 Split CT	MSNCT-1SP
	200A	1 Solid CT	MSNCT-2SC
	200A	1 Split CT	MSNCT-2SP
120V 1PH 2W 1kWh	100A	1 Solid CT	MSTCT-1SC
	100A	1 Split CT	MSTCT-1SP
	200A	1 Solid CT	MSTCT-2SC
	200A	1 Split CT	MSTCT-2SP
Voltage	200A Amps	1 Split CT  CTs Included	MSTCT-2SP  Cat. No.
Voltage  Dual Element Mini Meter		<del>'</del>	
		<del>'</del>	
Dual Element Mini Meter	Amps	CTs Included	Cat. No.
Dual Element Mini Meter 120/240 1PH/3W Split Phase,	Amps 100A	CTs Included 2 Solid CTs	Cat. No.  MDNCT-1SC
Dual Element Mini Meter 120/240 1PH/3W Split Phase,	100A 100A	CTs Included  2 Solid CTs 2 Split CTs	Cat. No.  MDNCT-1SC  MDNCT-1SP
Dual Element Mini Meter 120/240 1PH/3W Split Phase,	100A 100A 200A	2 Solid CTs 2 Split CTs 2 Split CTs 2 Solid CTs	Cat. No.  MDNCT-1SC  MDNCT-1SP  MDNCT-2SC
Dual Element Mini Meter 120/240 1PH/3W Split Phase, 120/208 2PH/3W 0.1kWh	100A 100A 200A 200A	2 Solid CTs 2 Split CTs 2 Solid CTs 2 Solid CTs 2 Solid CTs 2 Split CTs	Cat. No.  MDNCT-1SC  MDNCT-1SP  MDNCT-2SC  MDNCT-2SP
Dual Element Mini Meter 120/240 1PH/3W Split Phase, 120/208 2PH/3W 0.1kWh  120/240 1PH/3W Split Phase,	100A 100A 200A 200A 100A	2 Solid CTs 2 Split CTs 2 Solid CTs 2 Solid CTs 2 Split CTs 2 Split CTs 2 Solid CTs	MDNCT-1SC MDNCT-1SP MDNCT-2SC MDNCT-2SP MDTCT-1SC

**NOTE:** All kits include meter and Current Transformers (CTs)

Indoor Surface Mount Mini Meter



Mini Meter with Transceiver

## Wireless Repeaters and Data Concentrating Access Points (DCAPs)

Wireless Repeater	
Description	Cat. No.
Repeater, 5V, includes 5VDC 1A plug-in power supply and internal backup battery	T95RX-000
Wireless Data Concentrating Access Points (DCAPs)*	

Wireless Data Concentrating Access Points (DCAPs)*				
Description	Cat. No.			
Data Concentrating Access Point (DCAP), Low Capacity (150 meter points max), built-in radio receiver	T201E-151			
DCAP, High Capacity (1000 meter points max), built-in radio receiver	T201E-102			
DCAP, capacity 2000 meter points max, includes radio receiver	T25DX-202			

 $<sup>^{\</sup>star}$ All DCAPs and Gateways shipped with 6VDC, minimum 1.5 Amp power supply, Ethernet cable and USB cable





For both retrofit and new construction, Leviton VerifEye™ Multiple Meter Units (MMUs) are fast and easy to install. They come pre-wired per project configuration sheets with clearly labeled connections, minimizing the electrical installation time and saving money. All Leviton MMUs are UL Listed assemblies, giving your customers extra assurance at no extra cost. Choose from an indoor steel model in 4/8/16 unit single- or three-phase configurations utilizing Series 2000 meters or a weatherproof outdoor enclosure in 4/8/19 unit single-phase configurations utilizing Mini Meters. If your application requires a different configuration, Leviton is ready to help.

### VerifEye™ Mini Meter MMUs

LEVITON

Medium Mini Meter MMU — 2-4 Meters			
Voltage	Description	Cat. No.	
120/208/240V,	2 Dual Element Meters	6M302-CFG	
1PH 3W, 3PH 4W	3 Dual Element Meters	6M303-CFG	
	4 Dual Element Meters	6M304-CFG	

Large Mini Meter	MMU — 5-8 Meters	
120/208/240V,	5 Dual Element Meters	6L305-CFG
1PH 3W, 3PH 4W	6 Dual Element Meters	6L306-CFG
	7 Dual Element Meters	6L307-CFG
	8 Dual Element Meters	6L308-CFG

Extra-Large Mini M	eter MMU — 9-19 Meters	, NEMA 4X Enclosure
120/208/240V,	9 Dual Element Meters	6X309-CFG
1PH 3W, 3PH 4W	10 Dual Element Meters	6X310-CFG
	11 Dual Element Meters	6X311-CFG
	12 Dual Element Meters	6X312-CFG
	13 Dual Element Meters	6X313-CFG
	14 Dual Element Meters	6X314-CFG
	15 Dual Element Meters	6X315-CFG
	16 Dual Element Meters	6X316-CFG
	17 Dual Element Meters	6X317-CFG
	18 Dual Element Meters	6X318-CFG
	19 Dual Element Meters	6X319-CFG

Optional Modules for MMU	
Description	Cat. No.
High Density Pulse Module for MMU	A8911-MML
integration (large enclosure models)	
High Density Pulse Module for MMU	A8911-MMX
integration (XL enclosure models)	
Modhopper Wireless Transceiver for MMU	R9120-MMU
integration (large and XL enclosure models)	



Medium Mini Meter Multiple Meter (MMU)

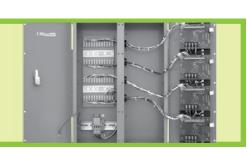


Extra Large Mini Meter Multiple Meter Unit (MMU)

### **SPOTLIGHT**

**MMUs** 

All MMUs are customizable and field upgradable for individual projects. Each meter order requires submittal of a Configuration Form. For more information go to leviton.com/verifeye.



Series 8000 Multi-Point High Density Meter | Residential/Commercial



## **VerifEye™ Series 8000 Multiple Point High-Density Smart Meter**

VerifEye™ Series 8000 Multiple Point High Density Meters are designed to meter high-density applications such as multi-tenant office and residential buildings, medium-sized retail stores, and institutional facilities. For easy data accessibility, the Series 8000 design is based on an open protocol network to transmit data over ModBus and BACnet, and Ethernet. Combining revenue-grade electrical submetering with building automation communications technology, the Series 8000 complies with all regulatory electric safety and communications requirements and meets stringent ANSI 0.5% Accuracy Class standards.

#### **Features and Benefits**

- Allows for revenue grade metering of up to 24 individual circuits in one device
- Inputs are configurable as seen below:
- 8 circuits, 3 phase loads
- 12 circuits, 2 phase loads
- 24 circuits, 1 phase loads
- 100-5,000 Amp current transformers
- Native communications protocol ModBus TCP, ModBus RTU (RS-485) and BACnet IP standard
- Measures kilowatt hours, kW demand, volts and amps
- Interval and net metering
- Two onboard pulse input channels available for co-located meters with contact closures
- This platform is both CA Type and NYPSC Approved

Voltage	Description	Cat. No.
Multi-Family Resider	tial	
120/208/240V	Phase Config 3x2 with Wiring Harness	S8120-032
	Phase Config 6x2 with Wiring Harness	S8120-062
	Phase Config 9x2 with Wiring Harness	S8120-092
	Phase Config 12x2 with Wiring Harness	S8120-122
120/208V	Phase Config 8x3, 12x2, 24x1 with Terminal Strips	S8UTS-241
	Phase Config 8x3, 12x2, 24x1 with Wiring Harness	S8UWH-241
Commercial and Res	idential	
277/480V	Phase Config with 8x3, 12x2, 24x1 with Terminal Strips	S277TS-241
	Phase Config with 8x3, 12x2, 24x1 with Wiring Harness	277WH-241



Series 8000 Multiple-Point High Density Meter

### **SPOTLIGHT**

Leviton ASHRAE Standard 90.1 2019 & CA Title 24 2019 Resources

Take advantage of Leviton's wealth of information and tools relating to ASHRAE Standard 90.1 2019 and Title 24. Gain access to code, product, and application information; download the latest design guides as well as the Leviton ASHRAE and Title 24 apps. Find it all by going to ashrae.leviton.com and title24.leviton.com.





Series 7000 and 7100 Advanced Branch Circuit Monitor | Residential/Commercial

#### Series 7000 and 7100 Advanced Branch Circuit Monitor

The VerifEye™ Series 7000 and 7100 Advanced Branch Circuit Monitor is a cost-effective solution for electrical load management. The Series 7000 and 7100 platform is ideal for high density, branch circuit monitoring applications in both new construction and retrofit applications. The Series 7000 and 7100 monitors up to 48 branch circuits with one single meter board.

#### **Features and Benefits**

- 12 and 48 independent, user-defined inputs
- 2 independent sets of refence voltage inputs allow for simultaneous monitoring of multiple systems (48 circuit model only)
- Line powered from 90-600V, phase-to-phase
- Supports solid core, split core and Rogowski Coil CTs
- Bidirectional monitoring
- Meets ANSI & IEC metering system accuracy requirements including branch CTs
- Meter board features:
  - Easy access terminals for CT wiring, removable connectors
  - Available with or without display for the embedded options
- Reports volts, amps, power, demand and energy for each circuit each Series 7000 Meter covers a complete 42 breaker panelboard plus mains for a total of 48 circuits (48 circuit model only)
- Configurable for four and 16 individual loads, which can be a combination of single-phase, 2-phase or 3-phase circuits. Please consult factory for capacity limitations for any other combination
- User-configurable alarm thresholds register for improved load management
- Selectable phase orientation and number of circuits
- Limited 5-year warranty

Series 7000 and 7100 Advanced Branch Circuit Monitor			
Voltage	Description	Cat. No.	
120V-480VAC	Series 7000 Embedded Branch Circuit Monitor Platform, 12 inputs with display	70D12-000	
	Series 7000 Embedded Branch Circuit Monitor Platform, 12 inputs, no display	70N12-000	
	Series 7100 Branch Circuit Monitor, 12 Inputs with display, NEMA 1 enclosure	71D12-000	
	Series 7000 Dual Voltage, Embedded Panel Mount	70D48-000	
	(no enclosure) Branch Circuit Monitor, 48 inputs, LCD display		
	Series 7000 Dual Voltage, Embedded Panel Mount	70N48-000	
	(no enclosure) Branch Circuit Monitor, 48 inputs, no display		
	Series 7100 Dual Voltage, Branch Circuit Monitor,	71D48-000	
	48 inputs, LCD display, NEMA 1 enclosure		



Series 7000 12-Circut Embedded with Display



Series 7000 48 Circuit Embedded with Display



Series 7100 48 Branch Circuit Monitor



Series 7100 12 Branch Circuit Monitor

Continued from previous page

## Series 7000 and 7100 Advanced Branch Circuit Monitor

Compatible CTs	
Description	Cat. No.
Split Core CT, 333mV:50A, 0.4"	CTV5X-WA4
Split Core CT, 333mV:100A 1.6" x 2.1"	CTV01-K21
Split Core CT, 333mV:100A 2.2" x 2.8"	CTV02-K21
Split Core CT, 333mV:400A 6.0" x 5.2"	CTV04-K40
Split Core CT, 333mV:800A 6.0" x 5.2"	CTV08-K40
Solid Core CT, 333mV:100A	CDV01-K17
Solid Core CT, 333mV:200A	CDV02-K17
100A Solid Core CT, 333mV, 0.75" ID, 0.2% accuracy	CDV01-K19
200A Solid Core CT, 333mV, 0.75" ID, 0.2% accuracy	CDV02-K19
400A Solid Core CT, 333mV, 1.0" ID, 0.2% accuracy	CDV04-K25
5-4000A Rogowski Coil CT 16", 131mV/1000A @ 60Hz, 109.2mV/1000A @ 50Hz, <0.6% accuracy	CRV50-LR2
5-4000A Rogowski Coil CT 24", 131mV/1000A @ 60Hz, 109.2mV/1000A @ 50Hz, <0.6% accuracy	CRV50-LR4

#### **Water Meters**

Address a wide range of water measurement applications with Leviton water meter solutions. Water meter options include polymer and bronze models. These meters offer a cost-effective, reliable solution for incorporating water tenant billing and other metering projects. They are compatible with automated reading hardware and wireless AMR transmitters, simplifying integration into other metering and building systems.

- Meets all AWWA standards
- California CTEP and NTEP approved models available for hot and cold water, residential application
- High quality long-life parts
- Tamper detection

- NSF-61-G
- Pulse output
- Designed for residential and commercial tenant billing applications
- Compatible with wireless AMR solutions
- Register units US gallons

Commercial Water Meters	
Description	Cat. No.
3/4" by 5/8" Bronze Water Meter with Couplings	WMC75-BU1
1" Bronze Cold Water Meter with Couplings	WMC10-BU1
1.5" Bronze Cold Water Meter with Couplings	WMC15-BU1
2" Bronze Cold Water Meter with Couplings	WMC20-BU1
3/4" Bronze Hot Water Meter with Couplings	WMH75-BU1
1" Bronze Hot Water Meter with Couplings	WMH10-BU1
1.5" Bronze Hot Water Meter with Couplings	WMH15-BU1
2" Bronze Hot Water Meter with Couplings	WMH20-BU1
Residential Water Meters	

Z Bronze not water neter with coaptings	WITH IZO BOT	
Residential Water Meters		
Description	Cat. No.	
3/4" Cold Water Meter — CA certified, couplings sold separately	WMC75-PC1	
3/4" Hot Water Meter — CA certified, couplings sold separately	WMH75-PC1	
3/4" Meter Couplings, Polymer Set (2)	WMX75-PZ1	
3/4" Spacer Tube, Polymer	WMX75-PY1	



Commercial Bronze Hot Water Meter



Commercial Bronze Multi-Jet Cold Water Meter



Cold Water Meter



Residential Polymer Cold Water Meter

## Gas Meters I VerifEye™ Submetering Solutions

Residential/Commercial | Gas Meters and Data Acquisition Hubs | Commercial

#### **Gas Meters**

Gas Meter options offer a reliable and cost effective means to incorporate additional utilities into a tenant billing or energy management program. They are compatible with automated reading hardware and wireless AMR transmitters, simplifying integration into other metering and building systems.

#### **Features and Benefits**

- AMR/AMI compatible
- Pulse output
- Tamper-resistant
- Compatibility with Wireless AMR
- 400 CH Meter's Easy Turn design allows for a drastically simplified installation

Gas Meters	
Description	Cat. No.
Residential Gas Meter with pulse output, 0.75" NPT connectors included	GMP75-201
250 CFH Gas Meter with temp condensation and pulse output, 1" connector set included	GMP10-201
400 CFH Commercial Gas Meter with temp condensation and pulse output,	GMP15-401
includes 1" or 1.5" connector set	



Gas Meter

## **VerifEye™ Metering Communications Systems**

To create a data network between Leviton VerifEye™ submeters and stakeholders (BAS, third party billing, Leviton Energy Manager software, etc.), Leviton offers VerifEye™ Metering Communications Systems. These solutions transmit data from meters to end systems, creating a seamless transition between data collection and data/delivery display. Leviton's metering communications systems also enable facilities to create metering systems that can easily share data through open protocols such as ModBus and IP-based data transfer through HTTP/FTP of .csv or XML files. The results are robust and reliable networks scalable to accommodate future expansion, with data made accessible from any internal or external location.

#### **Data Acquisition Hubs**

Data Acquisition Hubs, including the Energy Monitoring Hub (EMH), EMB and EMBLite, are intelligent, flexible data acquisition servers allowing users to collect energy data from meters and environmental sensors. Designed to connect to IP-based applications such as enterprise energy management, demand response and smart grid programs, Hub servers let you connect thousands of energy points, benchmark energy usage and reduce energy costs.

- Collects and logs data from connected wired or wireless devices based on user-set intervals
- Pushes or pulls data via HTTP, XML, FTP or any custom protocol using an Ethernet (LAN) connection
- ullet No software required information can be accessed through any web browser in any location
- Plug and play connectivity
- Compatible with nearly any front-end software platform allowing customers to use a variety of reporting tools
- Push or pull meter data to energy dashboards, kiosks and software applications
- Monitor performance of critical systems (lighting, HVAC, PDUs, inverters, etc.)

Data Acquisition Hubs | High Density Pulse and Flex I/O Modules | Commercial





### VerifEye™ Metering Communications Systems

Metering Communications Hubs	
Description	Cat. No.
Energy Monitoring Hub — Configured for Leviton Energy Manager	A8812-001
Energy Monitoring Hub — Non-Configured	A8812-000
EMB Hub	A8810-000
EMB HubLite	A7810-000
Power Supply for EMB Hub and EMB HubLite (order separately)*	YBM07-001
*Power supply is used for EMB Hub and HubLite	· · · ·

EMH
Design Production

Addressor

LEVITON 1-biddeness

A8812 Energy Monitoring Hub



## **VerifEye™ Metering Communications Expansion Modules**

## High Density Pulse Module

The High Density Pulse Module provides a convenient way to expand a Leviton VerifEye™ Metering System by connecting the HD Pulse Module to an Energy Monitoring Hub (EMH) and/or ModHopper for system expansion. The HD Pulse Module accepts up to 23 standard pulse sensors and can function as a slave device with any ModBus master. This data can easily be integrated to a network of other critical energy sensors to provide a comprehensive energy monitoring solution. The HD Pulse Module is ideal for applications with a high density of pulse output devices, giving users access to meters that would previously require multiple modules.

#### Features and Benefits

- External communications handled via shielded twisted pair 18-22 gauge wire allow communication up to 4000 feet and pulse input communication up to 200 feet (consult factory for longer runs) using 18-24 gauge control wire
- DIN or wall mounting make installation quick and easy
- Device verification LED indicators for each pulse input allow for fast indication and verification of pulses to reduce installation and troubleshooting time
- Non-volatile memory retains configuration and pulse count totals during power failures for reliable data collection and retention
- Easily add pulse meters to ModBus network for a scalable, open protocol solution
- Field upgradable firmware for user-friendly future upgrades and expansion

#### Flex I/O Module

The Flex I/O Module is a cost-effective way to collect data from meters or sensors and bring the information into a ModBus network or energy monitoring system. As a Standalone or bundled package, the Leviton Flex I/O can be incorporated with data acquisition and metering devices to provide a cost-effective energy monitoring solution. The Flex I/O is compatible with virtually any ModBus master, allowing customers the flexibility to use it in existing ModBus networks. Use with the Leviton Energy Monitoring Hub (EMH).

- Easily add meters and sensor to ModBus network
- 8x user selectable inputs
- 2x output relays
- 2x pulse replicator
- Non-volatile memory
- Industrial temperature range: -30°C to 70°C
- LEDs for visual verification/status reduce installation and troubleshooting time
- DIN or wall mount for easy installation
- Field upgradable firmware for user-friendly future upgrades and expansion



Wireless AMR System for Submetering | Residential/Multi-Family

### **Wireless AMR System for Submetering**

The Leviton VerifEye™ Wireless Automated Meter Reading (AMR) System is specifically designed to support wireless data collection from energy and water submeters in residential multi-tenant and specific commercial building applications. This fixed-network system allows for ease of data acquisition and export to tenant billing software and management platforms.

### Wireless Metering Data Transceiver (MDT)

The MDT records usage data from a wide variety of energy and water meters and transmits that data via radio frequency to the Data Concentrating Access Point (DCAP) in hourly intervals.

#### **Features and Benefits**

- Single Input Pulse
- Dual Input Pulse
- Encoder
- Interval data options are also available with Time of Use (TOU) models

### Wireless Metering Data Transceiver (MDT) with LCD

For use in properties where easy access to meter readings are required under the Americans with Disabilities Act. The LCD screen displays the consumption for 60 seconds when the button is pushed and displays the same consumption value as the meter. All programmed parameters transfer to the DCAP for seamless integration into the data provided by the CIT and daily reports.

#### **Features and Benefits**

- Specialized enclosure with a standard sized wallplate back piece that mounts to a standard 1-gang electrical box for a professional looking installation
- Powered by two AA batteries for a five-year battery life under typical conditions
- NTEP certification #16-013 accepted by California Weights and Measures

### Data Concentrating Access Points (DCAPs)

The DCAP is the brains of the VerifEye wireless system incorporating a powerful embedded micro-computer and integrated radio transceiver. The DCAP communicates with each Repeater and MDT and stores meter reading history.

#### **Features and Benefits**

- Local storage of up to one million data points
- Multiple levels of security for database access
- Integrated alarm monitoring and configurable e-mail alerts
- Accurate real-time clock
- USB port for initial device setup

#### **RF Network Diversity Repeater**

Extends the range of two-way radio signals between MDTs and DCAPs

#### **Features and Benefits**

- Provides improved ability to receive distant RF signals
- Diversity antennas for optimal system communications redundancy

Wireless AMR System for Submetering | Commercial



Continued from previous page

### Wireless AMR System for Submetering

Wireless Metering Data Transceiver (MDT)	
Description	Cat. No.
Wireless Metering Data Transceiver (Wireless DCAP required to complete system), single pulse counter, 15 min TOU battery powered	T70MB-ST0
Wireless Metering Data Transceiver (Wireless DCAP required to complete system), single pulse counter, 1-hour interval, battery powered	T70MB-SP0
Wireless Metering Data Transceiver (Wireless DCAP required to complete system), dual pulse counter, 1-hour interval, battery powered	T70MB-DP0



MDT with LCD

Wireless Metering Data Transceiver (MDT) with LCD			
Description	Cat. No.		
Wireless Metering Data Transceiver with Display (Wireless DCAP required to complete system), single pulse counter, 1-hour interval, battery powered	T75MB-SP0		
Wireless Metering Data Transceiver with LCD (Wireless DCAP required to complete system), dual pulse counter, 1-hour interval battery powered	T75MB-DP0		



Wireless MDT

Cat. No.
T25DX-151
T25DX-102
T25DX-202



DCAP

Wireless Repeater	
Description	Cat. No.
Wireless Repeater - extended range for use with wireless submetering systems. 5VDC,	T95RX-000
800mA (120VAC power supply included)	



Repeater

## **SPOTLIGHT**

Leviton California Title 24 Online Design Guide

Take advantage of Leviton's California Title 24 Design Guide on your laptop or mobile device. This comprehensive online guide is searchable by recommended Leviton solution, code article or application. To register or download the Leviton California Title 24 mobile app, go to title24.leviton.com.



EMX Integrated Meter & Hub | Commercial

### **VerifEye™ EMX Integrated Meter & Hub**

The VerifEye™ EMX Integrated Meter combines an onboard revenue-grade power meter, a Leviton Data Acquisition HUB and web server in a flexible all-in-one package. This simple and effective energy solution can be used to meet energy codes and mandates and is ideal for new construction and commercial buildings.

#### **Features and Benefits**

- Data Collection
  - Logs and collects data on user selected intervals
  - Non-volatile memory stores data until the next scheduled upload or manual download
- Compatible with VerifEye BMO allowing users to quickly access energy consumption information from a web-based platform
- Tracks real-time energy usage for demand response programs
- Meter data can be transferred to energy dashboards, kiosks and software applications Expandable via ModBus RTU and ModBus TCP
- Seamlessly integrates with BMS and BAS systems
- Five-year warranty

#### **Measured Parameters**

- kW
- kVA and kVAR
- Power factor: 3 phase average and per phase
- Import and export present power demand: Real (kW), reactive (kVAR) and apparent (kVA)
- Bidirectional energy measurements
- Current (3-phase average and per phase)
- Voltage L-L and L-N
- Frequency
- ANSI C12.20 0.2% accuracy, IEC 62053-22 Class 0.2S
- Accumulated net energy: Real (kWh), reactive (kVARh) and apparent (kVAh)
- Accumulated real energy by phase (kWh)
- Demand interval configuration: fixed or rolling block, external sync to communication

Enclosures	
Description	Cat. No.
EMB A8810 with 4DUMR-00M 3-Phase ModBus Meter for Solid or Split Core CTs in a	A8810-4KM
NEMA 4X enclosure	
EMB A8810 with 4DUMR-00R 3-Phase ModBus Meter for Rogowski Coil CTs in a NEMA	A8810-4KR
4X enclosure	

Components		
Amp	Description	Cat. No.
100A	Split Core CT, 333mV 1.6" x 2.1"	CTV01-K21
	Split Core CT, 333mV 2.2" x 2.8"	CTV02-K21
400A	Split Core CT, 333mV 6.0" x 5.2"	CTV04-K40
800A	Split Core CT, 333mV 6.0" x 5.2"	CTV08-K40
50-500A	Rogowski Coil CT, 12"	CRV50-K62
	Rogowski Coil CT, 18"	CRV50-K93
	Rogowski Coil CT, 24"	CRV50-KC2



81000

Current Transformers | Commercial





### **Submetering Current Transformers**

The better the equipment, the better the measurement. Leviton meters utilize highly accurate current transformers for revenue-grade performance certified to ANSI standards. Options include split and solid core models. For added safety, all Leviton current transformers come with built-in voltage suppression devices that prevent hazardous voltages from developing on CT secondaries should they become disconnected from a meter with load current present. Compact and cost-effective solid core CTs slip over power lines to measure the electrical current flowing through the line.

## Solid Core — For use with Series 1000, 2000, 3500 and 8000 Meters, Mini Meters and MMUs Only

Amp	Description	Cat. No.
100:0.1A	Solid Core, 0.72", Black	CDA01-K12
	Solid Core, 0.72", Blue	CDA01-L12
	Solid Core, 0.72", Red	CDA01-R12
200:0.1A	Solid Core, 0.72", Black	CDA02-K12
	Solid Core, 0.72", Blue	CDA02-L12
	Solid Core, 0.72", Red	CDA02-R12
400:0.1A	Solid Core, .098", Black	CDF04-K24

# Split Core — For use with Series 1000, 2000, 3500, 8000, Mini Meters and Multiple Meter Units (MMUs) Only

Amp	Description	Cat. No.
100:0.1A	Split Core, .75" x .75"	CTD01-K16
200:0.1A	Split Core, 1" x 1"	CTD02-K16
400:0.1A	Split Core, 1.5", x 1.5"	CTD04-K23
800:0.1A	Split Core, 3" x 3.5"	CTC08-K46
1200:0.1A	Split Core, 4" x 6"	CTC12-K46
1600:0.1A	Split Core, 4" x 6"	CTC16-K96
3000:0.1A	Split Core, 5" x 7"	CTC30-57B
5000:0.1A	Split Core, 5" x 7"	CTC50-57B

#### Split Core — For use with Series 4000, 4100 Industrial ModBus Meter Kits and Series 7000 and 7100 Meters Only

Amp	Description	Cat. No.
50A:0.333V	Split Core, 0.4"	CTV5X-WA4
100A:0.333V	Split Core, 1.6" x 2.1"	CTV01-K21
200A:0.333V	Split Core, 2.2" x 2.8"	CTV02-K21
400A:0.333V	Split Core, 6" x 5.2"	CTV04-K40
800A:0.333V	Split Core, 6" x 5.2"	CTV08-K40

Rogowski Coil — For use with Series 4000 and 4100	
Industrial ModBus Meter Kits Only	

Amp	Description	Cat. No.
50-5000A	Rogowski Coil, 12"	CRV50-K62
	Rogowski Coil, 18"	CRV50-K93
	Rogowski Coil, 24"	CRV50-KC2

## Rogowski Coil — For use with Series 7000 and 7100 Meters Only

Amp	Description	Cat. No.
5-4000A	Rogowski Coil, 16"	CRV50-LR2
	Rogowski Coil 24"	CRV50-I R4

## Solid Core — For use with Series 7000 and 7100 Meters Only

Meters Uniy		
Amp	Description	Cat. No.
333mV:100A	Solid Core CT	CDV01-K17
333mV:200A		CDV02-K17



Solid Core Current Transformers 100A, 200A, 400A, 100mA/333V available



Split Core Current Transformers 100A-5000A, 100mA available



Split Core Current Transformers 100A-5000A, .333V available



Sub-Metering Current Transformer



Rogowski Coil Current Transformer 50A-5000A, .333V available



ModHopper | Metering Communication Components and Bundles | Commercial

### **Metering Communications Expansion**

#### ModHopper

The ModHopper is a breakthrough mesh technology design that makes connecting ModBus RTU (RS485) and pulse devices simple and cost effective. Our "smart" ModHopper transceivers eliminate the need for costly wiring runs, allowing users to capture meter data in the most challenging retrofit and campus environments. Collect data from meter points in existing buildings with minimum downtime or disruption of day-to-day operations.

#### **Features and Benefits**

- Designed specifically for wireless metering and Leviton VerifEye™ Metering Solutions for guaranteed compatibility
- No software or programming required devices automatically configure when powered, reducing labor costs and
- Wireless "mesh" network self-healing, self-optimizing for ease of installation and maintenance
- Connect up to 32 ModBus and 2 pulse devices per ModHopper for the ultimate expandable solution
- Long distance communication (3000ft indoor/14 miles LOS) for flexibility of placement and easier future expansion
- Multiple independent network capability
- Reliable, constant two-way communication and packet verification
- Point to multi-point communication
- Field upgradable firmware for user-friendly future upgrades and expansion

## VerifEye™ Metering Communications Expansion Components and Bundles

Metering Communications Expansion Components		
Cat. No.	Description	
A8911-000	High Density Pulse Module, 23 Inputs	
A8332-000	Flex I/O Module, 8 User Selectable Inputs, 2 Relay Outputs	
R9120-500	ModHopper and Power Supply	

Optional Modules for MMU		
Description	Cat. No.	
A8911-MML	High Density Pulse Module for MMU integration (large enclosure models)	
A8911-MMX	High Density Pulse Module for MMU integration (XL enclosure models)	
R9120-MMU	Modhopper Wireless Transceiver for MMU integration (large and XL enclosure models)	

NEMA Communication Bundles		
Cat. No.	Description	
A8810-PS1	Energy Monitoring EMB Hub with line voltage power supply, NEMA 4X enclosure	
A7810-PS1	Energy Monitoring EMB HubLite with line voltage power supply, NEMA 4X enclosure	
A8911-PS1	HD Pulse Module with line voltage power supply, NEMA 4X enclosure	
A8332-PS1	Flex I/O Module with line voltage power supply, NEMA 4X enclosure	



High Density Pulse Module





Modhopper



A8810-PS1 Energy Monitoring EMB Hub



**Energy Management** 

### **VerifEye™ Software Solutions**

#### Save Energy, Reduce Costs, Be Sustainable

VerifEye<sup>™</sup> software solutions provide simple, effective, turn-key solutions to monitor energy in real time. Designed to seamlessly integrate with VerifEye<sup>™</sup> submetering hardware and communication systems, VerifEye<sup>™</sup> software allows facilities to introduce smart energy management strategies, saving money and resources. Visit **leviton.com/verifeye** for more information.

#### **Verification Software Includes**

Measurement & Verification (M&V)

Building Manager Online (BMO)

Web-based interval data collectionsoftware platform

### Measurement & Verification (M&V) Software

#### Measure. Monitor. Manage. Bill.

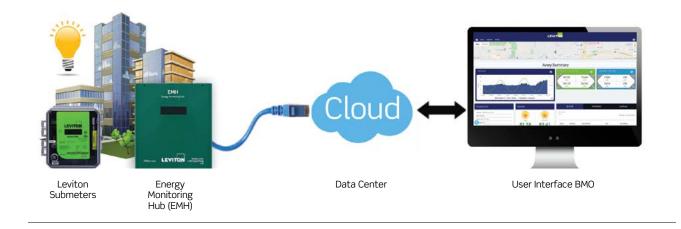
Energy monitoring and reporting is the key to measuring and managing energy efficiency and cost.

Decision makers everywhere are turning to VerifEye™ Measurement & Verification (M&V) Software solutions to get the information they need to make smart energy choices. An advanced web based platform that provides real time data for your entire enterprise, Leviton Building Manager Online (BMO) delivers the most sophisticated tools to drive energy efficiencies, reduce operating costs and create more sustainable, environmentally sound facilities.

### How VerifEye™ Measurement & Verification (M&V) Software Works

#### Simple, Effective, Turnkey Solution to Monitor Energy in Real Time

- Meters record real-time consumption data
- Energy Monitoring Hub (EMH) receives meter data and pushes it to a data center and pushes it to the cloud
- VerifEye™ M&V software analyzes, formats and reports the data
- User logs into VerifEye™ M&V software website and accesses data and reports





### **VerifEye™ Software Products**

BMO web-based software offers users tools for automated energy information that can be summarized to identify consumption and demand patterns in defined time intervals. A wealth of information in multiple reports and additional graphical formats is available. The software also allows users to set email alerts for the most critical data. Select from three distinct modules including the Base, Advanced Reporting, and Tenant Billing Modules to achieve facility and code compliance needs.

#### **Features and Benefits**

- Software platform tool with a capacity for managing an entire portfolio of buildings
- Configure dashboards to graphically display user defined energy information data
- View building information updated in 15-minute intervals—energy usage, measured parameters, cost metrics
- Set goals for energy usage at the building or portfolio level
- Receive alerts and alarms via email or SMS
- View and display current and future weather data based on desired geographical location
- Create virtual meters to report aggregated loads for lighting, HVAC, etc.







	Base Energy Management	Energy Management with Advanced Reporting	Tenant Billing
		Web-Based Software	
Primary Functions	Provides a summary of energy profiles to help identify high and low consumption as well as energy usage patterns for user defined intervals. Populates reports based on user configured preferences. Assists end users in meeting the growing requirements of local and national energy codes such as Title 24, ASHRAE 90.1, Seattle Energy Code and New York Local Law 88.	Includes all the functionality of the Base Module with the addition of enhanced reporting and dashboarding features. Adds support for Daily and Hourly Heat Maps, Drift Analysis reporting and Kiosk display. Provides custom report design features.	Monitor individual units to create invoices and tenant billing reports.  Supports an online portal for tenants to log in and monitor their usage and billing information.  Includes all the features of both the Base and Advanced Reporting Modules.

Building Manager Online	
Base Module	
Description	Cat. No.
BMO Energy Management Software (first 50 data points are included at no charge for the first year)	BMOSW-050
BMO Energy Management - Additional 50 data points (1st year)	BMOSW-MTR
BMO Energy Management Software - Annual Renewal Tier 1 (50 data points)	BMOSW-TR1
BMO Energy Management Software - Annual Renewal Tier 2 (100 data points)	BMOSW-TR2
BMO Energy Management Software - Annual Renewal Tier 3 (250 data points)	BMOSW-TR3
BMO Energy Management Software - Annual Renewal Tier 4 (500 data points)	BMOSW-TR4

Software Solutions | Residential/Commercial





## VerifEye™ Software Solutions

Building Manager Online				
Advanced Reporting Module				
Description	Cat. No.			
BMO Energy Management Software with Advanced Reporting (up to 50 data points)	BMOSW-EXE			
BMO Advanced Reporting Upgrade - per each additional 50 data points (1st year)	BMOSW-EXU			
BMO Energy Management with Advanced Reporting - Add 50 data points	BMOSW-MTE			
BMO Energy Management Software with Advanced Reporting - Annual Renewal Tier 1 (50 data points)	BMOSW-ER1			
BMO Energy Management Software with Advanced Reporting - Annual Renewal Tier 2 (100 data points)	BMOSW-ER2			
BMO Energy Management Software with Advanced Reporting - Annual Renewal Tier 3 (250 data points)	BMOSW-ER3			
BMO Energy Management Software with Advanced Reporting - Annual Renewal Tier 4 (500 data points)	BMOSW-ER4			
Tenant Billing Module				
Description	Cat. No.			
BMO Tenant Billing Software (up to 50 data points)	BMOSW-BIL			
BMO Tenant Billing - Add 50 data points	BMOSW-MTB			
BMO Tenant Billing - Annual Renewal Tier A (50 data points)	BMOSW-TRA			
BMO Tenant Billing - Annual Renewal Tier B (100 data points)	BMOSW-TRB			
BMO Tenant Billing - Annual Renewal Tier C (250 data points)	BMOSW-TRC			
BMO Tenant Billing - Annual Renewal Tier D (500 data points)	BMOSW-TRD			
Support Services				
Description	Cat. No.			
BMO Short Term Support Plan (90 Days)	BMOSW-STP			
BMO Long Term Support Plan (1 Year)	BMOSW-LTP			