Sensor Technologies

Passive Infrared (PIR) Technology

- Designed to detect motion from a heat-emitting source (such as a person entering a room) within its field-of-view and automatically switch lights ON and OFF.
- PIR sensors are considered line-of-sight sensors, meaning that the sensor must be able to have a direct line-of-sight to the person making the motion.

Ultrasonic (US) Technology

- Ultrasonic sensors use the Doppler Principle. These sensors produce low intensity, inaudible sound an detect changes in sound waves caused by motion.
- They are volumetric in nature and therefore not line-of-sight dependent.
- They are much more sensitive to smaller motions.

Dual Technology

- Dual Technology is the combination of PIR and Ultrasonic into one sensor and is the ultimate sensing solution available today.
- This pairing helps to eliminate false activations (both ON and OFF) thus saving additional energy use.
- Dual Technology sensors ensure the greatest sensitivity and coverage for tough applications without the threat of false triggers.

Daylighting

When enabled, the Daylighting feature (-R/MV/DMV Units only) prevents lights from turning ON when the room is adequately illuminated by natural light.

- Full Logic Mode (-R Units Only) - should the ambient light level exceed the preset foot-candle level, the lights turn OFF. The lights will remain OFF until the ambient light level falls below the set point.
- Half Logic Mode - If the amount of natural light available rises above the setpoint, the daylight sensor will not turn the lights OFF wile occupancy is being detected.

Surge Protection

- The device can withstand surges up to 6KV without getting damaged, resulting in longer lifespan.

Color Change Kits

Color change kits come with three interchangeable color faceplates. This allows the device color to be changed in the field, offering design flexibility within one product.

LA	W	V

C2 Color Kit
Light Almond, White, Ivory

BK	W	GY

C5 Color Kit
Black, White, Gray

Lighting Brands
Ametrix
AtLite
Corelite
Ephesus
Fail-Safe
Halo
Halo Commercial
Invue
io
Iris
Lumark
Lumière
McGraw-Edison
Metalux
MWS
Neo-Ray
Portfolio
RSA
Shaper
Streetworks
Sure-Lites

Controls Brands
Greengate
Fifth Light

Connected Lighting Systems
HALO Home
WaveLinx

IoT Platforms
Trellix

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Product availability, specifications, and compliances are subject to change without notice.

Wallbox Lighting Controls
Cooper Lighting Solutions

Greengate

Energy Codes

Energy costs and consumption continue to rise in the United States. Today, many energy codes and energy policies either require or incentivize the use of energy efficient lighting controls on commercial projects.

NOTE: This document is intended to provide a brief overview and design professionals should consult the appropriate standards documentation, and authority having jurisdiction, for project-specific requirements and interpretation

ANSI/ASHRAE/IES Standard 90.1-2016

Commonly known as ASHRAE 90.1, this standard is recognized by the U.S. Department of Energy (DOE) as the national energy reference standard. This code significantly fine-tunes the design requirements for code-compliant lighting controls systems, mechanical systems, and the building envelope.

International Energy Conservation Code (IECC) 2015

This standard establishes minimum energy efficiency requirements for new and renovated buildings. ASHRAE 90.1 is recognized by the DOE as the national reference standard; however IECC is adopted by many states.

California Title 24

These are California's Building Energy Efficiency Standards for new construction of, and additions and alterations to, residential and nonresidential buildings.

	Energy Code Section		
Top Energy Code Requirements	**ASHRAE 90.1 (2016)**	**IECC (2015)**	**Title 24 (2016)**
Local Control	9.4.1(a)	C405.2.2.3	130.1(a), (b)
Manual ON	9.4.1.1(b)	C405.2.2.3	130.1(a), (b)
Partial Automatic ON	9.4.1.1(c)	C405.2.1.1	130.1(b)
Multi/Bi-Level Lighting	9.4.1.1(d)		130.1(a)
Daylighting Side Lighting	9.4.1.1(e)	C405.2.3.2	130.1(d)
Daylighting Top Lighting	9.4.1.1(f)	C405.2.3.1	130.1(d)
Automatic Partial OFF	9.4.1.1(g)	C405.2.1.2	130.1(c).6
Automatic Full OFF	9.4.11.1(h)	C405.2.1.1	130.1(c).5

Local Control
The lights can be turned ON/OFF locally

Manual ON
The lights can be turned ON only through manual operation; auto-ON is restricted

Partial Automatic ON
The lights can be turned ON automatically, when occupancy is sensed, only at a power level less than or equal to 50%

Multi/Bi-Level Lighting
At least one control step is provided between 30% and 70% power levels

Daylighting Side/Top Lighting
Electric lighting is controlled when side/top daylight is available

Automatic Partial OFF
The light level will be reduced, when no occupancy is detected over a period

Automatic Full OFF
The lights will turn OFF, when no occupancy is detected over a period

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	WALLBOX SENSORS																	0-10V DIMMER SENSOR	
	OSW-P-0801-120-*	OSW-P-1001-MV-*	ONW-P-1001-MV-*	ONW-P-1001-DMV-*	ONW-P-1001-347-*	ONW-P-1001-D347-*	ONW-P-1001-SP-*	ONW-P-1001-RR7-*	VNLW-P-1001-MV-N-*	OSW-U-0721-MV-*	ONW-D-1001-MV-*	ONW-D-1001-347-*	ONW-D-1001-DMV-*	ONW-D-1001-DMV-N*	ONW-D-1001-MV-N-*	ONW-D-1001-SP-*	ONW-D-1001-RR7-*	OSW-P-010-*	OSW-D-010-*
AESTHETICS																			
Vacancy Version	VSW-P-0801-120-*		VNW-P-1001-MV-*	VNW-P-1001-DMV-*							VNW-D-1001-MV-*		VNW-D-1001-DMV-*					VSW-P-010-*	VSW-D-010-*
Technology	Passive Infrared									Ultrasonic	Dual Technology							Passive Infrared	Dual Technology
Coverage (Sq. ft)	800	1000								720	1000							1000	
Input Voltage	120V	120/277V	120/277V		347V		10-30VDC	24VAC	120/277V		347V	120/277V				10-30VDC	24VAC	120/277V	
Switchpack/Power Pack							Required	RR7 Relay								Required	RR7 Relay		
Photocell	Included										Included								
BAS/HVAC Relay							Included									Included		Included	
Colors	W, V, LA, G, B								W, V, LA		W, V, LA, G, BK								B, G, LA, V, W, R
3-Way on Single Pole	3-Way						Single Pole		3-Way								Single Pole	3-Way	
Neutral									Required					Required				Required	
Special Feature				Dual Relay		Dual Relay			Night Light				Dual Relay	Dual Relay				Isolated Relay	
Other Info		Light Icon, EcoMeter									Light Icon, EcoMeter							Surge Protected	
APPLICATIONS																			
Closet/Utility	✔	✔	✔	✔	✔		✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Computer Room							✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔
Storage Room	✔	✔	✔	✔	✔		✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Hallway						✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔
Private Office	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Conference Room	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Partitioned Restroom						✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		✔
Non-Partitioned Restroom	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Vending Room	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Break Room										✔	✔	✔	✔	✔	✔	✔	✔		✔

	LINE VOLTAGE DIMMERS						
	WBSD-010SLD-*	WBSD-010DEC-*	WBSD-SLD-*	WBSD-DEC-*	WBSD-TOG-*	WBSD-SMT-*	WBSD-SMTACC-*
AESTHETICS							
Technology	0-10V		Universal Phase Cut				
Low-End Trimming			Yes				N/A
High-End Trimming	Yes					Yes	N/A
Input Voltage	120/277V		120V				N/A
Rapid Start			Fixed	Adjustable		Selectable	N/A
LED/CFL Wattage	120v/1200W		300W				N/A
INC/HAL/FLR Wattage	277V/1600W		600W				N/A
Colors	Color Change Kits Included (Except for SLD)						
3-Way or Single Pole	3-Way					Multi-Location	
Neutral						Required	N/A
Special Feature			Low-end trimming				
Other Info						High-end trimming	
APPLICATIONS							
Classroom	✔	✔					
Computer Room	✔	✔					
Warehouse	✔	✔					
Hallway	✔	✔	✔	✔	✔	✔	✔
Private Office	✔	✔	✔	✔	✔	✔	✔
Conference Room	✔	✔	✔	✔	✔	✔	✔
Banquet Hall	✔	✔	✔	✔	✔	✔	✔
Hotel Lobby	✔	✔	✔	✔	✔	✔	✔
Restaurant	✔	✔	✔	✔	✔	✔	✔
Cafeteria	✔	✔					