

SECTION E

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Wall Switch Sensors



MAXX™ Harsh Environment Occupancy Sensors



WL-Series Wireless Sensors and Controls



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Energy Consumption and Standards Compliance

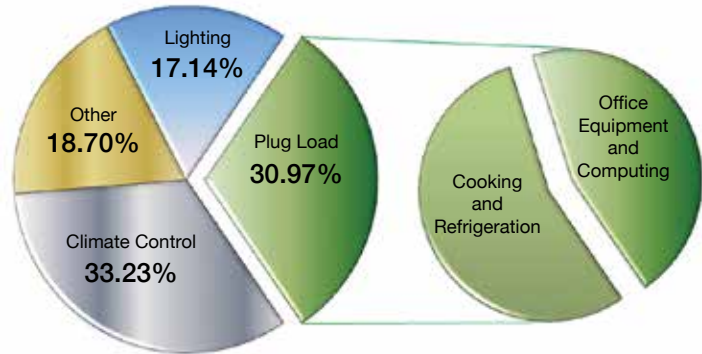
Electricity consumption in commercial buildings has changed dramatically over the past decade. Energy efficient lighting sources like LEDs have reduced their contribution on a commercial building's total electricity consumption from 40% to approximately 17%. Today plug and process loads consume up to 30% of a typical commercial building's energy costs. Energy Efficiency Codes & Standards are becoming more stringent in an effort to reduce energy consumption in all areas of commercial buildings.

Hubbell Load:Logic® series of control devices offers a broad range of space, centralized and distributed controls that meet the latest codes and standards and qualify for LEED certification points. Hubbell devices feature ease of installation, setup, operation and commissioning process. The result is an "install-and-forget" experience.

Additional features include:

- Occupancy or time-based controls
- Integration with third party energy management or climate control systems
- Manual ON mode requires user operation to turn lights ON but automatically turns lights OFF when a space is unoccupied after a specified period of time
- Daylight Harvesting sensors for dimming or to keep the lights OFF when natural light is sensed
- Automatic receptacle control

Commercial Buildings Electricity Consumption



Electrical bill impact for a typical office building



Adaptive Technology Provides Better Control

Hubbell's patented breakthrough in advanced control feature smart microprocessors constantly monitoring the controlled area and adjust the sensitivity and timer based on environmental history.

- Lower energy costs and utility bills
- No need to manually adjust for occupancy changes

Backed by Hubbell Service and Support

Hubbell Energy Efficiency Solutions focuses on environmental stewardship, innovative products and efficient building operations. Hubbell also offers superior service and support with:

- Online worksheets for calculating energy savings and ROI
- Detailed online e-learning courses
- Product selection guide to assist in choosing the right technology
- Online specification assistance
- Comprehensive layout and take-off services
- Highly knowledgeable network of trained professionals and staff
- BIM models and 3D coverage patterns



The Right Technology for the Right Application

Passive Infrared (PIR)



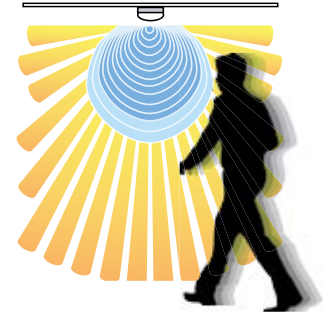
Requires a clear, unobstructed line of sight for detection, because it senses occupancy as movement of heat emitted from the body against the background space. A segmented Fresnel lens divides the coverage area into zones. Movement across zones is interpreted as occupancy.

Ultrasonic (US)



Senses occupancy by emitting an ultrasonic high-frequency sound wave (32 kHz to 45 kHz), sensing the frequency of the reflected signal, and then determining occupancy based on a change in frequency. While this has a limited range, it detects small motions and does not require a clear line of sight.

Dual Technology



Combines PIR and US technology, minimizing the risk of lights turning ON when the space is unoccupied. Once occupancy is detected by both technologies within the space lights are turned ON, only one technology is necessary to keep the lights ON.



Wired or Wireless Sensors:

What is the right choice?

Both choices offer advantages and selecting the most suitable one is key to a successful energy control strategy.

New construction, retrofit applications, construction materials, type of space to be controlled, etc. play a role in the selection process.



Wired

Wired technology has been available for over 50 years and is traditionally used when there is no restriction for running wires. It also offers more choices of sensing technologies.

Wired technology:

- The preferred choice for new construction, as wiring can be run easily while construction is underway.
- Offers more technologies; adaptive, ultrasonic and dual.
- Easily interfaces with other technologies and control systems like wireless, building automation and HVAC.

Wired Controls' New Companion

Hubbell's WL Series wireless controls can be installed to work with Hubbell's traditional wired technology to provide an optimal solution when running extra wiring is difficult or impractical.

Wireless

The WL Series sensors are designed for ultra-low power consumption which translates into a ten year battery life. They also combine advanced Digital Signal Processing (DSP) with Passive Infrared (PIR) technology to maximize sensitivity to the movement of heat emitted from people occupying a space.

Control signals are transmitted up to 60 feet over the low interference 434MHz band to associated Clear Connect® enabled devices that automatically turn lights OFF and other non-essential loads.

Wireless technology:

- Flexible, making moves, additions and changes easy because there is no need for additional wiring.
- Fast to install and setup, typically involves replacing the existing wall switch and pairing the desired sensor.
- These controls utilize a simplified 6-second press and hold commissioning procedure. No need for remotes, computers, smartphones or any other device to set up the system.

Features and Benefits

Adaptive Dual (Ultrasonic and Passive Infrared)

Combines PIR and US technology, minimizing the risk of lights turning ON when the space is unoccupied. Once occupancy is detected by both technologies within the space lights are turned ON, only one technology is necessary to keep the lights ON.

Adaptive technology provides better control. Hubbell's patented breakthrough in advanced control feature smart microprocessors constantly monitoring the controlled area and adjust the sensitivity and timer based on environmental history.

The optimum choice when performance is paramount.

Standard Passive Infrared

Requires a clear, unobstructed line of sight for detection, because it senses occupancy as movement of heat emitted from the body against the background space. A segmented Fresnel lens divides a coverage area into zones. Movement across zones is interpreted as occupancy.

Excellent for small room control.



AD2000W1



WS2000W

Adaptive Series



Housing Design

- Steel mounting strap
- High impact molded plastics
- Color matching tamper resistant lens



Coverage and Electrical Ratings

- Dual technology - 1,000 sq. ft. Ultrasonic only - 400 sq. ft.
- 120/277V AC 50/60 Hz; no neutral required; 24V DC, 33mA
- Zero-arc point switching
- Compatible with CFL/LED and motor loads



Operation

- Selectable Auto or Manual ON operating modes
- Vacancy only version
- Dual relay version for bi-level switching or lighting/fan control applications
- Photocell for extra energy savings

WS Series



Housing Design

- Plated steel mounting strap
- High Impact molded plastics
- Recessed tamper resistant lens
- Night light option



Coverage and Electrical Ratings

- High density PIR - 1,200 sq. ft.
- WS1000 series - 120V AC 60Hz
- WS2000 series - 120/277V AC 60Hz; multi-way capable
- No neutral required
- Compatible with CFL/LED and motor loads



Operation

- WS2000 series - Selectable Auto or Manual ON operating modes
- Vacancy only version
- Dual relay version for bi-level switching or lighting/fan control applications
- Photocell for extra energy savings

Adaptive Technology Wall Switch Sensors

800W Incandescent/Electronic Ballast, 5A LED, 1/6 HP at 120V AC, 1800W Electronic Ballast, 5A LED, 1/6 HP at 277V AC.

Dual (Ultrasonic and Passive Infrared)

Description	Color	Single Circuit		Dual Circuit	
		1 button	Auto control with no button	2 buttons	Auto control with no button
Selectable Manual/ Auto ON.	Black	AD2000BK1	AD2000BK1N	AD2000BK22	AD2000BK22N
	Gray	AD2000GY1	AD2000GY1N	AD2000GY22	AD2000GY22N
	Ivory	AD2000I1	AD2000I1N	AD2000I22	AD2000I22N
	Light Almond	AD2000LA1	AD2000LA1N	AD2000LA22	AD2000LA22N
	White	AD2000W1	AD2000W1N	AD2000W22	AD2000W22N
Manual ON (Vacancy).	Black	AD2001BK1	—	AD2001BK22	—
	Gray	AD2001GY1	—	AD2001GY22	—
	Ivory	AD2001I1	—	AD2001I22	—
	Light Almond	AD2001LA1	—	AD2001LA22	—
	White	AD2001W1	—	AD2001W22	—

Ultrasonic

Description	Color	Single Circuit		Dual Circuit	
		1 button		2 buttons	
Selectable Manual/ Auto ON.	Black	AU2000BK1		AU2000BK22	
	Gray	AU2000GY1		AU2000GY22	
	Ivory	AU2000I1		AU2000I22	
	Light Almond	AU2000LA1		AU2000LA22	
	White	AU2000W1		AU2000W22	
Manual ON (Vacancy).	Black	AU2001BK1		AU2001BK22	
	Gray	AU2001GY1		AU2001GY22	
	Ivory	AU2001I1		AU2001I22	
	Light Almond	AU2001LA1		AU2001LA22	
	White	AU2001W1		AU2001W22	

Passive Infrared

Description	Color	Single Circuit		Dual Circuit	
		1 button		2 buttons	
Selectable Manual/ Auto ON.	Black	AP2000BK1		AP2000BK22	
	Gray	AP2000GY1		AP2000GY22	
	Ivory	AP2000I1		AP2000I22	
	Light Almond	AP2000LA1		AP2000LA22	
	White	AP2000W1		AP2000W22	
Manual ON (Vacancy).	Black	AP2001BK1		AP2001BK22	
	Gray	AP2001GY1		AP2001GY22	
	Ivory	AP2001I1		AP2001I22	
	Light Almond	AP2001LA1		AP2001LA22	
	White	AP2001W1		AP2001W22	

Note: Neutral wire versions, add N in front of 2000 when ordering, example: (ADN2000, AUN2000, APN2000).
Wallplate sold separately. See page E-23 for technical specifications, coverage patterns and wiring schematics.
Special order for Assembled in USA units. Add suffix "U" at the end of the catalog number. Consult with your local Territory Manager.





**AD2240W1
AD2241W1**



**WS2000W
WS1000W**



**WS1020NW
WS1021NW**



DT2000W



DT5030W

Dual (Ultrasonic and Passive Infrared)

24V DC, 33mA. Requires a CU300xx series control unit.

Description	Color	Single Circuit		Dual Circuit	
		1 button		2 buttons	
Selectable Manual/ Auto ON.	Black	AD2240BK1		AD2240BK2	
	Gray	AD2240GY1		AD2240GY2	
	Ivory	AD2240I1		AD2240I2	
	Light Almond	AD2240LA1		AD2240LA2	
	White	AD2240W1		AD2240W2	
Manual ON (Vacancy).	Black	AD2241BK1		AD2241BK2	
	Gray	AD2241GY1		AD2241GY2	
	Ivory	AD2241I1		AD2241I2	
	Light Almond	AD2241LA1		AD2241LA2	
	White	AD2241W1		AD2241W2	

Note: Wallplate sold separately. See page E-23 for technical specifications, coverage patterns and wiring schematics.

Passive Infrared

Manual time delay adjustment.

Description	Color	Standard	with Nightlight	with Neutral	with Nightlight and Neutral
Manual adjusting; selectable manual/auto ON operation; dual-voltage 120/277V AC; multi-way capable.	Gray	WS2000GY	WS2000NGY	—	—
	Ivory	WS2000I	WS2000NI	WS2004I	WS2004NI
	Light Almond	WS2000LA	WS2000NLA	—	—
	White	WS2000W	WS2000NW	WS2004W	WS2004NW
Manual adjusting; selectable manual/auto ON operation; 120V AC only.	Ivory	WS1000I	WS1000NI	—	—
	Light Almond	WS1000LA	WS1000NLA	—	—
	White	WS1000W	WS1000NW	—	—
Manual adjusting; manual ON operation; 120V AC only.	Ivory	WS1001I	WS1001NI	—	—
	Light Almond	WS1001LA	WS1001NLA	—	—
	White	WS1001W	WS1001NW	—	—
Manual adjusting; auto ON operation; dual circuit; 120V AC only.	Gray	WS1020GY	WS1020NGY	—	—
	Ivory	WS1020I	WS1020NI	WS1024I	WS1024NI
	Light Almond	WS1020LA	WS1020NLA	WS1024LA	WS1024NLA
	White	WS1020W	WS1020NW	WS1024W	WS1024NW
Manual adjusting; manual ON operation; dual circuit; 120V AC only.	Gray	WS1021GY	WS1021NGY	—	—
	Ivory	WS1021I	WS1021NI	WS1025I	WS1025NI
	Light Almond	WS1021LA	WS1021NLA	WS1025LA	WS1025NLA
	White	WS1021W	WS1021NW	WS1025W	WS1025NW

Note: See page E-24 for technical specifications, coverage patterns and wiring schematics.

Digital Timer

Description	Color	Catalog Number
DIP switch enable preset intervals for 2 and 4 hours. User adjustable up to 24 hours. 3-way capable, 960W @ 120V AC and 1200W @ 277V AC.	White	DT2000W

Count Down Timers

Description	Color	30 Minutes: OFF, 5, 10, 20, 30	60 Minutes: OFF, 15, 30, 45, 60	12 Hours: OFF, 2, 4, 8, 12
1000W @ 120V AC and 1400W @ 277V AC.	Ivory	DT5030I	DT5060I	DT5012I
	Light Almond	DT5030LA	DT5060LA	DT5012LA
	White	DT5030W	DT5060W	DT5012W

Features and Benefits

Dual (Ultrasonic and Passive Infrared)

Combines PIR and Ultrasonic technology, minimizing the risk of lights turning ON when the space is unoccupied. Once occupancy is detected by both technologies within the space lights are turned ON, only one technology is necessary to keep the lights ON.

Adaptive technology provides better control. Hubbell's patented breakthrough in advanced control feature smart microprocessors constantly monitoring the controlled area and adjust the sensitivity and timer based on environmental history.

The absolute choice for advanced control and precise performance.

Passive Infrared

Passive infrared sensors are specifically designed for long-range major motion activity sensitivity, making them ideal for large open areas.

Various models are suitable for indoor and outdoor applications where NEMA 4X rating is required. Other units are suitable for extreme temperatures areas providing unsurpassed flexibility for almost every application.



ATD2000C

ATD1600W

Ceiling Mount



Housing Design

- High-impact, plastic (UL94, 5VA)
- 12-element segmented Fresnel lens; 32kHz ultrasonic transmitter and receiver
- Mounting base provided



Coverage and Ratings

- Up to 2,000 sq. ft. between 8ft and 12ft mounting height. 24V DC active high-logic control signal
- Option of a N/O + N/C contacts; SPDT; 500 mA rated @ 24V DC; three-wire isolated relay for HVAC or energy management systems integration



Operation

- Self adjusting sensitivity thresholds and timers; automatic false ON/false OFF corrections, strong airflow compensation mode
- Compatible with Hubbell's distributed and centralized control systems

Wall Mount



Housing Design

- High-impact, plastic (UL94, 5VA)
- 12-element segmented Fresnel lens; 32kHz ultrasonic transmitter and receiver
- Mounting base provided



Coverage and Ratings

- Up to 1,600 sq. ft. between 8ft and 12ft mounting height. (30ft for high bay, aisle model) 24V DC active high-logic control signal
- Option of a N/O + N/C contacts; SPDT; 500 mA rated @ 24V DC; three-wire isolated relay for HVAC or energy management systems integration



Operation

- Self adjusting sensitivity thresholds and timers. Automatic false ON/false OFF corrections airflow compensation mode
- Compatible with Hubbell's distributed and centralized control systems



ATD2000C

Dual (Ultrasonic and Passive Infrared) Ceiling Sensors

Combines the excellent minor motion detection of ultrasonic with the outstanding passive infrared (PIR) long-range major motion detection.

Description	Voltage	Coverage Area	
		2000 sq. ft. (360°)	1000 sq. ft. (180°)
Low voltage sensor with photocell and isolated relay.	24V DC	ATD2000CRP	ATD1000CRP
Low voltage sensor.	24V DC	ATD2000C	—
Line voltage sensor.	120-277V AC	ATD2000CL	ATD1000CL

Note: Low voltage ATD ceiling sensors must use a CU series control unit. See page E-10 for details. See pages E-25 to E-28 for technical specifications, coverage patterns and wiring schematics. For Assembled in USA units Add suffix "U"



ATD1000C

Ultrasonic Ceiling Sensors

Excellent minor motion detection.

Description	Voltage	Coverage Area	
		2000 sq. ft. (360°)	1000 sq. ft. (180°)
Low voltage sensor with photocell and isolated relay.	24V DC	ATU2000CRP	ATU1000CRP
Low voltage sensor.	24V DC	ATU2000C	—
Line voltage sensor.	120-277V AC	ATU2000CL	ATU1000CL

Note: Low voltage ATU ceiling sensors must use a CU series control unit. See page E-10 for details. See pages E-25 to E-28 for technical specifications, coverage patterns and wiring schematics. For Assembled in USA units Add suffix "U"



ATU2000C

Passive Infrared Ceiling Sensors

Outstanding long range major motion detection.

Description	Voltage	Coverage Area
		1500 sq. ft. (360°)
Low voltage sensor with photocell and isolated relay.	24V DC	ATP1500CRP
Low voltage sensor.	24V DC	ATP1500C
Line voltage sensor.	120-277V AC	ATP1500CL

Note: Low voltage ATP ceiling sensors must use a CU series control unit. See page E-10 for details. See pages E-25 to E-28 for technical specifications, coverage patterns and wiring schematics. For Assembled in USA units Add suffix "U"



ATU1000C

Low Profile, Line Voltage Passive Infrared Ceiling Sensors

Outstanding long range major motion detection in a compact low profile housing.

Voltage	Color	Load Rating	Coverage Area
			1500 sq. ft.
120-347V AC with photocell.	White	800W Inc., 1000W Fl. @ 120V AC 1800W Fluorescent @ 277V AC 2200W Fluorescent @ 347V AC	LVPR1500R



ATP1500C

Ceiling Sensors Accessories

Description	Catalog Number
Ceiling sensor infrared, NEMA 4X enclosure.	ACIPE*
Ceiling mount raceway adapter.	ACMRA
Ceiling mount wire guard.	ACMG

*Note: *Compatible with low voltage passive infrared sensors only.*



ACIPE



ACMRA



ACMG



LVPR1500R

Dual (Ultrasonic and Passive Infrared) Wall Mount Sensors

Description	Color	Coverage	Catalog Number
Low voltage sensor 32kHz with photocell and isolated relay.	Office White	1600 sq. ft.	ATD1600WRP



ATD1600W

Passive Infrared Wall Mount Sensors

Description	Color	Coverage	Catalog Number
Low voltage sensor with photocell and isolated relay.	Office White	1600 sq. ft.	ATP1600WRP
Low voltage sensor for aisle and high bay applications, with photocell and isolated relay.	Office White	120 linear feet	ATP120HBRP



ATP1600W

*Note: All wall mount sensors must use a CU series control units. See page E-10 for details.
See pages E-25 to E-28 for technical specifications, coverage patterns and wiring schematics.
For Assembled in USA units Add suffix "U"*

Wall Mount Sensors Accessories

Description	Catalog Number
Wall switch wire guard.	AWSG
Wall mount wire guard.	AWMG



AWSG

AWMG

OPTIMYZER® High Bay and Low Bay End Mount PIR Sensors

- Single and dual timer operation
- Low-profile design
- No minimum load
- Supports mounting heights up to 45 feet (High Bay)
- Supports mounting heights between 8-16 feet (Low Bay)

Description	Voltage	Catalog Number
Single relay with photocell.	120-347V AC	HMHB219
2 relays with photocell.	120-347V AC	HMHB229
1 double pole relay with photocell.	208/240V AC	HMHB23A9
1 double pole relay with photocell.	480V AC	HMHB23B9
Low voltage with photocell.	24V DC	HMHB2LV9*



HMHB219

*Note: 360° high bay lens included. Low bay lens options sold separately, see below for details.
*For use with CU series control units.
See pages E-29 and E-30 for technical specifications and coverage patterns.*



HBRL180

HBRL360

HBRLA

HBRLEA

Replacement Lenses and Accessories

Description	High Bay	Low Bay
180° Lens.	HBRL180	LBRL180
360° Lens.	HBRL360	LBRL360
Aisle lens.	HBRLA	LBRLA
End of aisle lens.	HBRLEA	LBRLEA
Mounting extension adapter.	HMHBSA	HMHBSA



HMHBSA



**DSL30W1
DSM30W1**

Low Voltage Switches

Single gang design, momentary or latching operation. Compatible with all Hubbell low voltage sensors and Load:Logic® Centralized and Distributed Control Systems. 100mA @ 30V DC max.

Description	Color	Catalog Number
Low voltage switch, latching, 1 button.	Ivory	DSL3011
	Light Almond	DSL30LA1
	White	DSL30W1
Low voltage switch, momentary, 1 button.	Ivory	DSM3011
	Light Almond	DSM30LA1
	White	DSM30W1

Note: Wallplate sold separately.



CU300ELC

Emergency Lighting Controls

20 amps, 120/277V AC, NC isolated contacts UL924 listed for emergency circuits. 0-10V dimming override.

Description	Catalog Number
Emergency lighting control unit.	CU300ELC
Remote test switch with engraved wallplate.	RTPB10W

Note: See page E-26 for technical specifications.



**CU300A(M),
CU347A**

Control Units

The CU300 series provides 24V DC power supply for sensors or sensor/Add-A-Relay combinations. The control units contain an internal relay for the control of an external load. Control units are plenum rated cULus Listed.

Description	Catalog Number
Auto ON operation, 100-277V AC, 50/60Hz for use with 1 to 4 ATD, ATU, ATP and AD2240 series sensors.	CU300A
Manual ON operation, 100-277V AC, 50/60Hz for use with 1 to 4 ATD, ATU, ATP and AD2240 series sensors.	CU300M
Auto or manual ON operation, 100-277V AC, 50/60Hz for use with 1 to 6 ATD, ATU, ATP, AHP and AD2240 series sensors, heavy duty latching relay for reactive loads and automatic receptacle control.	CU300HD

*Note: See page E-26 for technical specifications.
For Assembled in USA units Add suffix "U".*



CU300HD



AAR

Add-A-Relay

Hubbell AAR Add-A-Relay contains an internal relay for control of an external load. The AAR requires a 24V DC power supply from the Hubbell CU series control unit. AAR units are typically used when multiple zone control is desired or the load exceed the maximum load rating of a single control unit.

Description	Catalog Number
Auto ON operation, 120-277V AC, 50/60Hz. Requires a CU300 series control unit; suitable for lighting loads.	AAR
Auto or Manual ON operation, 100-277V AC 50/60Hz. Requires a CU300 series, heavy duty latching relay; suitable for automatic receptacle control applications.	AAR20P

Note: See page E-26 for technical specifications.



AAR20P



AAR10C277

Enclosed 10 Amp SPDT Relays

Description	Catalog Number
Enclosed relay 10 Amp SPDT with 10-30V AC/DC/120V AC coil.	AAR10C120
Enclosed relay 10 Amp SPDT with 10-30V AC/DC/208-277V AC coil.	AAR10C277

Daylight Harvesting

- Low-profile design
- Light-sensitivity wide range of options

Description	Voltage	Catalog Number
Single zone continuous automatic dimming control.	0-10V DC	DHADC†
Indoor photocell.	24V DC	DHIP▲
Outdoor photocell.	24V DC	DHOP▲
Atrium photocell.	24V DC	DHAP▲
Skylight photocell.	24V DC	DHSP▲
Control module.	24V DC	DHCM
Daylight tracker with ON/OFF control.	24V DC	DHT*
Daylight tracker with dimming control.	0-10V DC	DHTD†
Indoor photocell - selectable foot candle range.	24V DC	RCDP~
Outdoor photocell - selectable foot candle range.	24V DC	RCODP~

Note: †For use with 0-10V DC dimming ballasts.

▲For use with DHCM and CU series control units.

*For use with CU series control units.

~For use with Load:Logic Control Panel or Room Controller.



0-10V Adaptive Technology Wall Switch Sensor

Description	Color	Voltage	Catalog Number
Dimming PIR selectable auto ON/auto OFF manual ON/auto OFF, current sinking capacity, 30mA.	Black	0-10V DC (Dimming)	APD2000BK1
	Gray	120/277V AC	APD2000GY1
	Ivory		APD2000I1
	Light Almond		APD2000LA1
	White		APD2000W1
Dimming PIR manual ON/auto OFF (Vacancy) only, current sinking capacity, 30mA.	Black	0-10V DC (Dimming)	APD2001BK1
	Gray	120/277V AC	APD2001GY1
	Ivory		APD2001I1
	Light Almond		APD2001LA1
	White		APD2001W1



0-10V Dimming OPTIMYZER® High Bay and Low Bay End Mount PIR Sensors

- Supports mounting heights up to 45 feet (High Bay), between 8-16 feet (Low Bay), current sinking capacity, 30mA.

Description	Voltage	Catalog Number
Single relay with photocell.	120-347V AC	HBS13D
1 double pole relay with photocell.	208, 240V AC	HBS28D
1 double pole relay with photocell.	480V AC	HBS48D
Low voltage with photocell.	24V DC	HBS24D*

Note: 360° high bay lens included. Low bay lens options sold separately, see below for details.

*For use with CU300HD control unit.

See pages E-29 and E-30 for technical specifications and coverage patterns.



Replacement Lenses and Accessories

Description	High Bay	Low Bay
180° lens.	HBRL180	LBRL180
360° lens.	HBRL360	LBRL360
Aisle lens.	HBRLA	LBRLA
End of aisle lens.	HBRLA	LBRLA
Mounting extension adapter.	HMBSA	HMBSA



Low Voltage Switches with 0-10V Dimming

Single gang design, momentary, latching or a combination operation. Compatible with Hubbell CU300 series control units and IEC60929 Annex E.2 compliant dimming ballasts/LED drivers. Ideal for single zone dimming applications.

Description	Color	Voltage	Momentary, 3 button			Latching, 3 button			1 Latching, 1 Momentary, 4 button				
			DSM010GY	DSM010I	DSM010LA	DSM010W	DSL010GY	DSL010I	DSL010LA	DSL010W	DSC010GY	DSC010I	DSC010LA
Low voltage switch, 0-10V dimmer, current sinking capacity, 30mA.	Gray	24V DC											
	Ivory												
	Light Almond												
	White												

Note: See page E-34 for technical specifications.



Features and Benefits

MAXX™ Harsh Environment Occupancy Sensors

MAXX™ products are designed to withstand these harsh environments manufactured with cold and heat resistant components. These sensors tolerate extremes of weather and applications. MAXX™ products provide users with methods to reduce energy usage in harsh environments where other commercial grade products can't.



AHP1600WRP
with HAP4



HBSXT13

Pendant Mount



Housing Design

- IP66, NEMA 4X, outdoor rated
- Housing manufactured from chemical resistant Valox®
- Multiple mounting kits for existing work boxes and hubs; pendant or wall mounting flexibility

Fixture Mount



Housing Design

- IP65, NEMA 3R watertight, and outdoor rated
- Fixture or work box mounting with 1/2" threaded nipple



Protection

- Integrated lens guard protects against accidental damage
- Photocell makes sure lights stay OFF when there is sufficient daylight
- Isolated relay provides signalling to HVAC and ventilation systems



Coverage and Electrical Ratings

- Digital passive infrared (PIR) sensor
- Two (upward/downward) photocells options for daylight harvesting
- Supplied with 360° lens; aisle, end-of-aisle and 180° lenses available separately
- -40°F to 149°F (-40°C to 65°C) operating temperature range Compatible with CFL/LED and motor loads



Access Cover

- Stainless steel hardware and settings access cover

Valox® is a trademark of SABIC Innovative Plastics, acquired from General Electric Company.

NEMA 4X Outdoor, Passive Infrared Wall Mount Sensor

Description	Voltage	Catalog Number
PIR sensor, with isolated relay and photocell.	24V DC	AHP1600WRP
Adaptor plate for single gang FS boxes.	—	HAP1
Adaptor hub and nipple for Killark® NJ series boxes.	—	HAP2
Adaptor plate for Killark® NV series boxes.	—	HAP3
½" NPT threaded hub.	—	HAP4

Note: For use with CU300HD (100-277V AC, 50/60Hz) control unit.
See page E-26 for technical specifications and coverage patterns.



AHP1600WRP

Extreme Temperatures Passive Infrared Ceiling Mounted Sensor

Use ACIPE to make NEMA 4X watertight.

Description	Voltage	Catalog Number
Sensor with isolated relay and photocell.	24V DC	AHP1500CRP
IP66, NEMA 4X enclosure.	—	ACIPE

Note: For use with CU300HD (100-277V AC, 50/60Hz) control unit.
See page E-25 for technical specifications and coverage patterns.



AHP1500CRP
with **ACIPE**

Heavy Duty Control Unit

The CU300 series provides 24V DC power supply for sensors or sensor/Add-A-Relay combinations. The control units contain an internal relay for the control of an external load. Control units are plenum rated cULus Listed.

Description	Catalog Number
Auto or manual ON operation, 100-277V AC, 50/60Hz for use with 1 to 6 ATD, ATU, ATP, AHP and AD2240 series sensors, heavy duty latching relay for reactive loads and automatic receptacle control.	CU300HD

Note: See page E-26 for technical specifications.
For Assembled in USA units Add suffix "U".



CU300HD

OPTIMYZER® Watertight High Bay and Low Bay End Mount PIR Sensors

IP65, NEMA 3R, outdoor rated, -40°F to 149°F (-40°C to 65°C) operating temperature range.

Description	Voltage	Standard	0-10V Dimming
Single relay with photocell.	120-347V AC	HBSXT13	HBSXT13D
2 relays with photocell.	120-347V AC	HBSXT23	—
1 double pole relay with photocell.	208, 240V AC	HBSXT28	HBSXT28D
1 double pole relay with photocell.	480V AC	HBSXT48	HBSXT48D
Low voltage with photocell.	24V DC	HBSXT24	HBSXT24D

Note: 360° high bay lens included. Low bay lens options sold separately, see below for details.
*For use with CU300HD (120/277V AC, 50/60Hz) control unit.
See pages E-29 and E-30 for technical specifications and coverage patterns.



HBSXT13

Replacement Lenses

Description	High Bay	Low Bay
180° lens.	HBRLXT180	LBRLXT180
360° lens.	HBRLXT360	LBRLXT360
Aisle lens.	HBRLXTA	LBRLXTA
End of aisle lens.	HBRLXTEA	LBRLXTEA



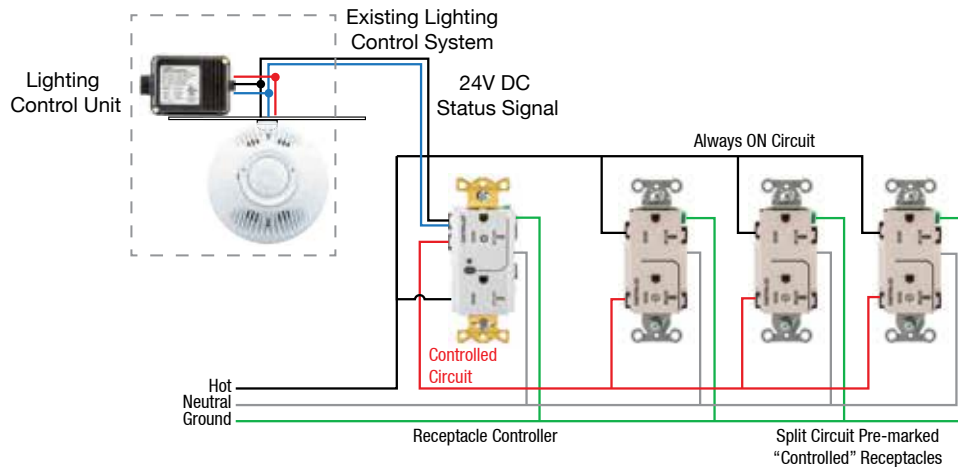
Energy Efficiency Solutions



New Codes and Standards mandates that 50% of all receptacles in private offices, open offices and computer classrooms must be automatically controlled by occupancy or time based schedules. This also includes outlets in modular furniture. Hubbell provides solutions for compliance that are cost effective and installer friendly. Find out more design resources at www.hubbell-wiring.com/energy.aspx

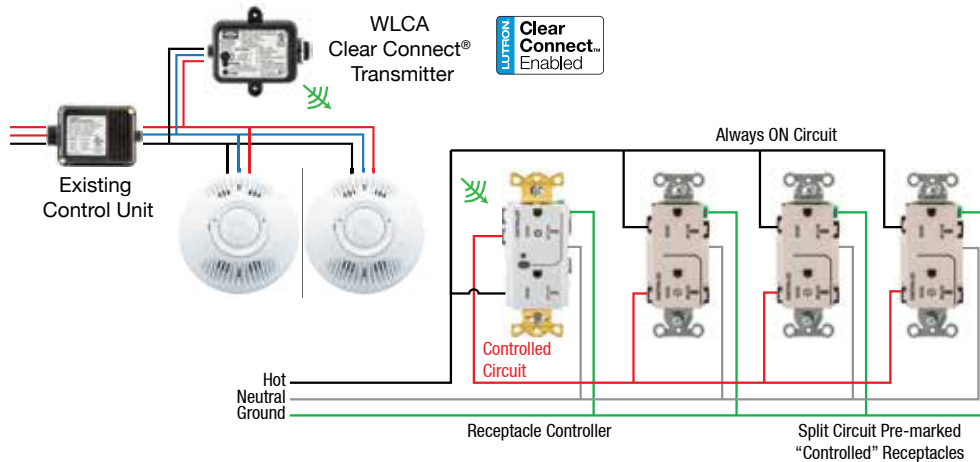
Wired

Utilizing low voltage wiring provides installers with a familiar method of wiring and installation. Specify Hubbell's new load control receptacle to meet this requirement. Utilize alternating outlet or split receptacle wiring as required to control at least 50% of the outlets in the space.



Wireless

Wireless communication takes complexity out of retrofit and difficult installations by eliminating low voltage wires running between lighting and receptacle control units. This gives installers flexibility to quickly deploy, add additional devices, and configure and re-configure the system as needed. Hubbell's WL series controls utilize Clear Connect® communication and are compatible with other Clear Connect® devices, such as Hubbell's wireless occupancy sensors.



Codes and Standards

ASHRAE 90.1

ASHRAE 90.1 is the leading energy building efficiency standard for commercial buildings in North America. Section 8.4.2, ASHRAE 90.1-2010 instituted the requirement that in certain spaces at least 50% of all receptacles are to be controlled by either time of day control device, an occupancy sensor or by an automated signal from another control or alarm system.



California Energy Commission Title 24

Section 130.5(d) of California Energy Commission Title 24, Part 6 - 2013 code requires receptacles to have automatic shutoff controls in certain spaces in all buildings.



NEC® 2017

Article 406.3(E) of the NEC® 2017 edition selected the standby (⏻) symbol as the marking for a receptacle connected to an automatic control system.



Clear Connect® is a registered trademark of Lutron Electronics Co., Inc.

Wired

Switched Receptacles for Automatic Receptacle Control

Description	Color	15A		20A	
		Split Circuit	Fully Controlled	Split Circuit	Fully Controlled
Auto ON/Auto OFF control. Capable of controlling additional receptacles downstream.	Black	HBL5262LC1BK	HBL5262LC2BK	HBL5362LC1BK	HBL5362LC2BK
	Brown	HBL5262LC1	HBL5262LC2	HBL5362LC1	HBL5362LC2
	Gray	HBL5262LC1GY	HBL5262LC2GY	HBL5362LC1GY	HBL5362LC2GY
	Green	HBL5262LC1GN	HBL5262LC2GN	HBL5362LC1GN	HBL5362LC2GN
	Ivory	HBL5262LC1I	HBL5262LC2I	HBL5362LC1I	HBL5362LC2I
	Lt. Almond	HBL5262LC1LA	HBL5262LC2LA	HBL5362LC1LA	HBL5362LC2LA
	White	HBL5262LC1W	HBL5262LC2W	HBL5362LC1W	HBL5362LC2W

Note: See page E-31 for technical information. Special order for hospital grade devices.



HBL5362LC2W

Heavy Duty Control Unit

The CU300 series provides 24V DC power supply for sensors or sensor/Add-A-Relay combinations. The control units contain an internal relay for the control of an external load. Control units are plenum rated cULus Listed.

Description	Catalog Number
Auto or manual ON operation, 100-277V AC, 50/60Hz for use with 1 to 6 ATD, ATU, ATP, AHP and AD2240 series sensors, heavy duty latching relay for reactive loads and automatic receptacle control.	CU300HD
Auto or Manual ON operation, 100-277V AC 50/60Hz. Requires a CU300 series, heavy duty latching relay; suitable for automatic receptacle control applications.	AAR20P

Note: See page E-26 for technical specifications and wiring schematics.



CU300HD

Wireless

Switched Receptacles for Automatic Receptacle Control

Description	Color	15A		20A	
		Split Circuit	Fully Controlled	Split Circuit	Fully Controlled
Wireless receiver Auto ON/Auto OFF. Capable of controlling additional receptacles downstream.	Black	HBL5262RFC1BK	HBL5262RFC2BK	HBL5362RFC1BK	HBL5362RFC2BK
	Brown	HBL5262RFC1	HBL5262RFC2	HBL5362RFC1	HBL5362RFC2
	Gray	HBL5262RFC1GY	HBL5262RFC2GY	HBL5362RFC1GY	HBL5362RFC2GY
	Green	HBL5262RFC1GN	HBL5262RFC2GN	HBL5362RFC1GN	HBL5362RFC2GN
	Ivory	HBL5262RFC1I	HBL5262RFC2I	HBL5362RFC1I	HBL5362RFC2I
	Lt. Almond	HBL5262RFC1LA	HBL5262RFC2LA	HBL5362RFC1LA	HBL5362RFC2LA
	White	HBL5262RFC1W	HBL5262RFC2W	HBL5362RFC1W	HBL5362RFC2W

Note: See page E-31 for technical information. Special order for hospital grade devices.



HBL5262RFC1W

Heavy Duty Control Unit with Wireless Transmitter

Transmits an occupancy status to a wireless receiver such as a switched receptacle or a control unit. Auto or Manual ON operation. Powers up to six low voltage sensors.

Description	Voltage	Catalog Number
Heavy duty control unit with Clear Connect®.	100-277V AC	WLCU301



WLCU301

Heavy Duty Load Control Units with Wireless Receiver

Receive an occupancy status from a sensor or a transmitter and energize connected loads such as lighting or receptacles loads.

Description	Voltage	Catalog Number
Single (1) circuit heavy duty control unit with Clear Connect®.	100-277V AC	WLC301
Dual (2) circuit heavy duty control unit with Clear Connect®.	100-277V AC	WLC302



WLC301

Furniture Feed Box with Heavy Duty Relays and Wireless Receiver

Receive an occupancy status from a sensor or a transmitter and energize the connected receptacles loads. Mounts on an existing electrical junction box. Dual relay control excellent for office furniture partitions.

Description	Voltage	Catalog Number
Dual (2) circuit heavy duty furniture feed box with Clear Connect®.	100-277V AC	WLC402W

Note: See page E-32 for technical specifications and wiring schematics.



WLC402W

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Features and Benefits

WL-Series Wireless Sensors and Controls

Hubbell's WL-Series Wireless Sensors and Controls are the ideal solution for renovation projects aimed at reducing energy consumption. These sensors use DSP Enhanced passive infrared technology to detect movement of heat from people to turn lights ON when a room is occupied and OFF when vacant. The sensors wirelessly transmit Clear Connect® commands to the associated control devices, reducing the need for additional wiring for ease and speed of installation and energy savings.

- Eliminates need to run extra wires
- Supports highly reconfigured spaces
- Helps complete projects quickly
- Helps manage energy consumption



WLP450C



WLS1278W

Ceiling Mount



Housing Design

- High impact, UL 94-5V plastic
- Operating temperature: 32 °F to 104 °F (0 °C to 40 °C)
- Multiple ceiling-mount methods available



Passive Infrared

- Three operation modes available: Auto ON, Auto ON Low-Light and Manual ON
- Advanced digital signal processing for fine motion detection
- Lens illuminates during test mode to verify coverage



Operation

- Auto ON Low-Light feature will only turn lights ON automatically if there is less than approximately 10 Lux (1 foot candle) of ambient light
- Accessible test buttons make setup easy

Wall Switches



Housing Design

- 8A lighting, 3A fan load capacity
- LED and CFL compatible with supplied load adaptor



Technology

- Green LED provides operation and setup feedback
- Digital push button operation provides user control



Operation

- Service switch prevents lights from turning ON during re-lamping
- No neutral required, no leakage to ground

Clear Connect® is a registered trademark of Lutron Electronics Co., Inc.

Wireless Wall Switches

Description	Color	Catalog Number
8A Lighting, 3A Fan (1/10 HP motor, 120V AC only), Spec Grade Electronic Switch 120–277V AC; no neutral wire required.	Ivory White	WLS1278I WLS1278W
Accessory Switch for multi location control, 120V AC.	Ivory White	WLAS120I WLAS120W
Accessory Switch for multi location control, 277V AC.	Ivory White	WLAS277I WLAS277W

Compatible Transmitters: WLP series and WLDH sensors, or any Lutron Clear Connect enabled sensor.



WLS1278I



WLAS277W

Wireless Ceiling Mount Sensor

Description	Color	Catalog Number
Ceiling mount 360° / 324–676 sq. ft.	White	WLP450C

Wireless Wall Mount Sensor

- Detection at longer distances is best when motion occurs at right angles to the sensor
- Multiple sensors can be used to extend coverage

Description	Color	Catalog Number
Wall mount 180° / 3000 sq. ft.	White	WLP3000W
Corner mount 90° / 2500 sq. ft.	White	WLP2500W
Hallway up to 150 linear feet.	White	WLP150H

Compatible Controls: WSL1278xx switch, WLC316R control unit, or any Lutron Clear Connect enabled control device.



WLP450C

Wireless Status Transmitter

Works with dual technology low voltage occupancy sensors or low voltage time based systems to transmit an occupancy signal to a receiver unit such as a wireless switched receptacle. It does not require batteries to operate.

Description	Voltage	Catalog Number
Wireless transmitter with Clear Connect®.	24V DC	WLCA



WLP150H

Wireless Control Unit

Description	Catalog Number
Wireless load control unit with isolated relay, 16A, 120V AC or 277V AC.	WLC316R

Compatible Transmitters: WLP series and WLDH sensors, or any Lutron Clear Connect enabled sensor.



WLCA



WLC316R

Wireless Daylight Sensor

Description	Color	Catalog Number
Daylight sensor 0–107,000 Lux (0–10,000 foot candles).	White	WLDH

Compatible Controls: WSL1278xx switch, WLC316R control unit, or any Lutron Clear Connect enabled control device.
Note: See pages E-32 to E-35 for technical specifications, coverage patterns and wiring schematics.



WLDH

Clear Connect® is a registered trademark of Lutron Electronics Co., Inc.

Trends in energy efficiency for commercial buildings are making a nationwide impact not only on energy savings but also in customer personal preferences. Smart devices applications are making possible individualized customization of the work environment and other spaces.

Hubbell Wiring Device-Kellems puts forward solutions that are cost efficient while meeting or exceeding current energy efficiency codes and standards. Whether there is a requirement for localized, central or distributed control, Hubbell Wiring Device-Kellems comprehensive offering encompass solutions for each of these control architectures.



Space Control	Distributed Control	Centralized Control
<p>Localized control flexibility.</p> <p>Based on standalone devices like occupancy sensors or time switches. Ideal for small building with few individual spaces.</p> <p>Operations like vacancy, dimming, pre-set light levels, automatic receptacle control, daylight harvesting, etc, are coordinated via control traditional wiring between devices.</p> <p>Devices need to be configured individually.</p> <p>No networking capability.</p> <p>When wired appropriately meet most of the current Energy Efficiency Codes and Standards.</p>	<p>Advanced control flexibility.</p> <p>Controllers are distributed throughout the floor/building. Although there can be a centralized control, distributed control systems are autonomous to perform individual control functions.</p> <p>Coordinated operations like vacancy, dimming, pre-set light levels, automatic receptacle control, daylight harvesting, etc. are embedded on the devices.</p> <p>Pre-terminated wiring. Reduces the amount of wiring errors. Full networking capability.</p> <p>Addressable controllers and devices are self-configured or configured via a smart device application.</p> <p>Meet or exceed the current and future Energy Efficiency Codes and Standards.</p>	<p>Superior control flexibility.</p> <p>Control located at a central location with the option of a remote device located at a separate location but subjected to the primary control.</p> <p>Coordinated operations like vacancy, dimming, pre-set light levels, automatic receptacle control, daylight harvesting, etc. are embedded on the devices.</p> <p>A mix of traditional and pre-terminated wiring exists.</p> <p>Devices need to be configured at the central location.</p> <p>Meet or exceed the current Energy Efficiency Codes and Standards.</p>

The Load:Logic Room Controller integrates automatic and manual control of lighting with the simplicity of plug-in installation and auto-configuration. Devices such as digital wall switches, vacancy/occupancy and daylight sensors are connected to the room controller by means of RJ45 connections reducing wiring errors. Comprehensive configuration of dimming, daylight and color tuning functions can be accomplished with the use of a Bluetooth® communication interface and free app available for both Android and iOS® devices. All of these features meet or exceed the current energy codes and standards resulting in an efficient and trouble-free installation.



Room Controller

Description	Catalog Number
2 Relays, 2 dimming channels, 120/277V AC.	LLC2RD
2 Relays, no dimming, 120/277V AC .	LLC2R

Note: See page E-36 for technical specifications and wiring schematics.



Interface Card and Modules

Description	Catalog Number
Bluetooth® module.	RCBTM
Dry contact input interface.	RCDISP
NC/NO output interface.	RCSPOR
3-Way bridging adapter (connects 2 devices sharing a signal).	BR241444
RJ45 adapter for non native RJ45 devices (10-pack).	HBLRJ45A10
Wireless transmitter.	WLCA

Switches with Pilot Light



Color	1 button	2 button	3 button	4 button	6 button
Black	RCS1BK	RCS2BK	RCS3BK	RCS4BK	RCS6BK
Gray	RCS1GY	RCS2GY	RCS3GY	RCS4GY	RCS6GY
Ivory	RCS1I	RCS2I	RCS3I	RCS4I	RCS6I
Light Almond	RCS1LA	RCS2LA	RCS3LA	RCS4LA	RCS6LA
White	RCS1W	RCS2W	RCS3W	RCS4W	RCS6W

Specialty Switches



Color	4 button, no pilot light, ON/Raise/Lower/OFF	6 button, with pilot light, Scene	2 button, no pilot light, Raise/Lower	1 button, with pilot light, Time to ON	2 button, no pilot light, ON/OFF
Black	RCSNRLFBK	RCSSCBK	RCSRLBK	RCSTOBK	RCSNFBK
Gray	RCSNRLFGY	RCSSCGY	RCSRLGY	RCSTOGY	RCSNFGY
Ivory	RCSNRLFI	RCSSCI	RCSRLI	RCSTOI	RCSNFI
Light Almond	RCSNRLFLA	RCSSCLA	RCSRLLA	RCSTOLA	RCSNFLA
White	RCSNRLFW	RCSSCW	RCSRLW	RCSTOW	RCSNFW

Sensing Devices

Description	Catalog Number
Daylight Sensor, Indoor.	RCDP
Daylight Sensor, Outdoor.	RCODP
Dual Technology Ceiling Sensor, 2,000 sq.ft.	ATD2000C*
Switched Receptacle, Split Controlled, 20A, White.	HBL5362LC1W*
Switched Receptacle, Full Controlled, 20A, White.	HBL5362LC2W*

*Note: *Requires (1) HBLRJ45A10.*



UTP Cat. 5e Patch Cords, Plenum, No Boot

Size	Color	Catalog Number
3 ft.	Yellow	NSC5EY03PNB
10 ft.	Yellow	NSC5EY10PNB
15 ft.	Yellow	NSC5EY15PNB
25 ft.	Yellow	NSC5EY25PNB
50 ft.	Yellow	NSC5EY50PNB
100 ft.	Yellow	NSC5EY100PNB



Features and Benefits

Centralized Control - Load:Logic® Control Panels

These control panels feature a broad set of programming capabilities allowing for manual or scheduled control of up to 48 loads. Designed to be a cost effective solution for compliance with the latest energy codes and standards, the panel offers maximum flexibility to a wide range of small to medium commercial and institutional applications.

The commissioning process is achieved via simple and intuitive scrolling menus. To program, check status or updates, pre-programmed scenarios that can be saved and exported in a portable document file (PDF) format.



- Time based or occupancy based control capabilities
- Same form factor, 1-pole or 2-pole, single input smart relay cards
- Configurable auxiliary contact inputs and outputs
- 0-10V dimming card with demand response capability
- Automatic Receptacle Control capability
- Compatible with Hubbell occupancy sensors and low voltage switches

Load:Logic® 8-Relay Panel Interior



Auxiliary Inputs



Dry Contact Outputs



Dimming Card



Master/Secondary Card



Individual Mounted Relay Card

Load:Logic® Energy Efficiency Panels, Relays and Accessories

4 and 8-Relay Panels

Description	4-Relay		8-Relay	
	Stand Alone		Master	Secondary
Relay panel with space for field installation, 120/208/240/277V AC.	CP042RRR3		CP082RRR1	CP082RRR2

16 and 24-Relay Panels

Description	16-Relay		24-Relay	
	Master	Secondary	Master	Secondary
Relay panel with space for field installation, 120/277V AC.	CP162RRR1	CP162RRR2	CP242RRR1	CP242RRR2
Relay panel with space for field installation, 480V AC.	CP163RRR1	CP163RRR2	CP243RRR1	CP243RRR2



Field Installed Relay Cards

Description	Catalog Number
20A 1-Pole Electrically Held N/O 120-277V.	R21HN
30A 1-Pole Latching 120-277-347V.	R31LX
20A 2-Pole Electrically Held N/O 480V.	R202HN
20A 2-Pole Electrically Held N/C 480V.	R202HC



Dimming Load:Logic Interface Card

- Full range dimming with preset dimming levels
- RJ45 connection ports for dimming switches
- Operates with 0-10V dimmable ballasts
- Max. Dim Level (Demand Response System Settings)
- Upgrade option to existing and new Load:Logic Panels
- Provides manual and automatic control of dimming levels

Interface Cards

Description	Catalog Number
8-channel dimming controller option board.	CPDM8CTRB



CPSD4W
(Shown with labels)



Dimming Switches (Compatible with Hubbell Wiring Device Load Control Panels)

Description	Color	1 button	2 button	3 button	4 button	6 button*
Load control panel, low voltage dimming switches.	Black	CPSD1BK	CPSD2BK	CPSD3BK	CPSD4BK	CPSD6BK
	Gray	CPSD1GY	CPSD2GY	CPSD3GY	CPSD4GY	CPSD6GY
	Ivory	CPSD1I	CPSD2I	CPSD3I	CPSD4I	CPSD6I
	Light Almond	CPSD1LA	CPSD2LA	CPSD3LA	CPSD4LA	CPSD6LA
	White	CPSD1W	CPSD2W	CPSD3W	CPSD4W	CPSD6W

Note: Compatible with Load:Logic Control Panels equipped with dimming controller card ONLY. Configurable for a variety of button functions. Function specific button caps supplied with units. Use standard decorator wallplates (order separately).
*Special order only.

Energy Efficiency Solutions

Load:Logic® Energy Efficiency Panels, Relays and Accessories



Low Voltage Switches

Description	Color	1 button with LED pilot light	2 button	2 button with LED pilot light	4 button with LED pilot light
Low voltage switch, momentary.	Ivory Light Almond White	DSM30I1P DSM30LA1P DSM30W1P	DSM30I2 DSM30LA2 DSM30W2	DSM30I2P DSM30LA2P DSM30W2P	DSM30I4P DSM30LA4P DSM30W4P

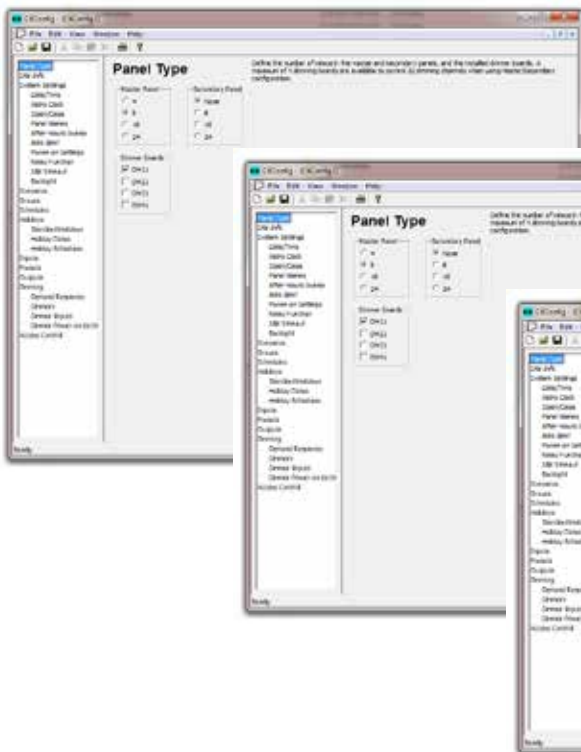


Replacement Parts

Description	Catalog Number
Transformer, 120/208/240/277V AC to 24V AC, 4 and 8-relay panel.	CPTFMR27
Transformer, 120-277V AC to 24V AC, 16-24 relay panel.	CPTFMR12
Transformer, 347-480V AC to 24V AC, 16-24 relay panel.	CPTFMR48
Panel replacement motherboard for 4-relay panel.	CPMBRD04
Panel replacement motherboard for 8-relay panel.	CPMBRD08
Panel replacement motherboard for 16-24 relay panel (8-relays).	CPMBRD16
Master controller, replacement kit.	CPMCTRKT
Secondary interface, replacement kit.	CPSINTRKT

Load:Logic® Configuration Software

The optional configuration software allows commissioning of the Load:Logic® Control Panel using a personal computer to create a program file. Once the file is completed, it is then copied to an SD memory card and uploaded to the panel. The Master Panel has an SD Card slot on the left side of the User Interface that allows for this upload. Additionally, the program file can be downloaded to an SD Card and then opened on a personal computer. The software also allow for a portable document file (pdf) output of the panel configuration parameters that can be submitted as project documentation. The program is available as a free download at www.hubbell-wiring.com.

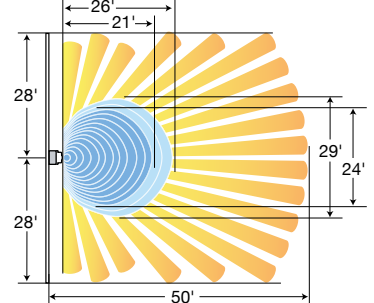


Adaptive Technology Wall Switch Sensors

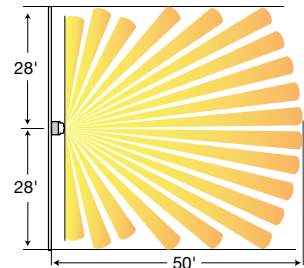
Electrical	AD2000, APD2000, AP2000 and AU2000 Series
Power Supply	120/277V AC, 50/60Hz
Load Capacity	800W Incandescent, 1000W Electronic Ballast, 5A LED
120V AC	1800W Electronic Ballast, 5A LED
277V AC	
Motor Load	1/6HP
Power Requirements	24V DC nominal, 33mA from Hubbell CU series control unit (AD2240 Series)
Agency Approvals	UL and cUL Listed
Physical	
Housing	High impact plastic (UL 94-5V)
Lens	Dual element pyrometer and 12 element cylindrical hard lens (AP2000 only)
Dimensions	Face 2.57"H x 1.71"W, 0.53"D (from wall out)
Mounting Height	42 to 54 inches above floor
Environmental	
Operating	32° F to 104°F (0°C to 40°C); 0% to 95% non-condensing relative humidity
Controls	
Time Delay	Digital, adaptive 4 to 30 minutes, 20 minutes default
Ambient Light	Adjustable ambient light override, 10 to 500 foot candles
Front Press Switch	Auto/OFF
Sensitivity	Adaptive 0% to 100%
Service Switch	Air gap OFF
Dimming	0-10V, Sink up to 30mA (APD2000 series only)
Sensing Indicator	
Passive Infrared	Red LED (AD & AP series only)
Ultrasonic	Green LED (AD & AU series only)

Wall Switches Coverage Patterns

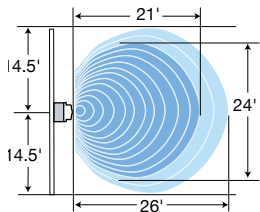
Minor Motion: ■ Ultrasonic ■ PIR
Major Motion: ■ Ultrasonic ■ PIR



AD2000 Series



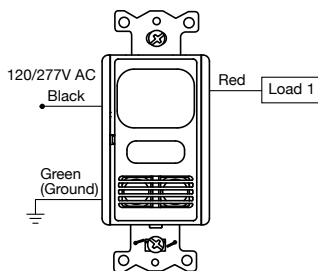
AP2000 Series



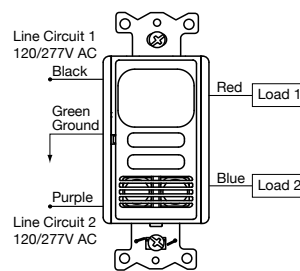
AU2000 Series

Wiring Schematic AD, AU, AP, 2000 Series Wall Switch Sensors

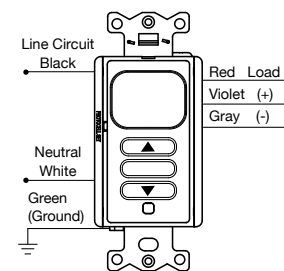
Single Circuit Wiring



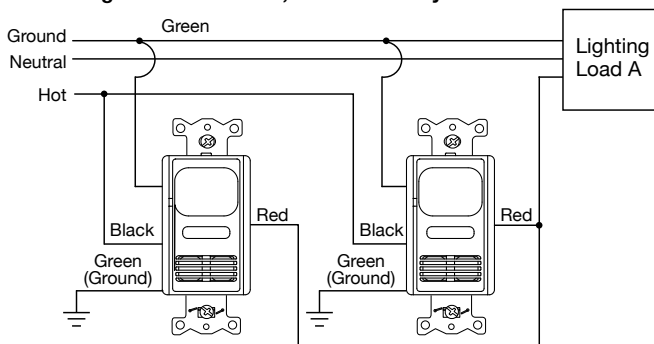
Two Circuit Sensor, Wired for Two Loads



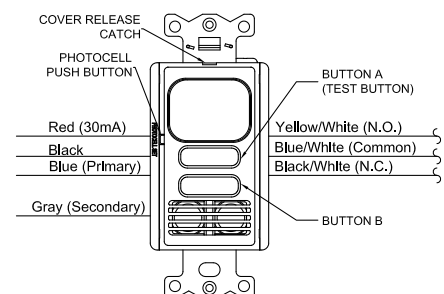
Wall Switch Sensors with Neutral Wires



Single Circuit Sensors, Wired as 3-Way Sensors*



Low Voltage Wall Switch Sensors*



Note: *Load can not exceed the rating of one switch.
Sensor is shipped with all DIP switches in the OFF position (factory default).

Energy Efficiency Solutions

Adaptive Technology PIR Wall Switches WS2000, WS1000 and WS1020 Series

Electrical	WS2000 Series	WS1000/WS1020 Series
Power Supply	120/277V AC, 60Hz	120V AC, 60Hz
Load Capacity		
Incandescent	1000 watts	5A/600 watts
120V Ballast, CFL, LED	1000 watts, 1/6HP	5A/600 watts, 1/6HP
277V Ballast, CFL, LED	1800 watts	N/A
Agency Approvals	cULus Listed	cULus Listed
Warranty	5 years	5 years

Physical

Housing	Flame retardant UL 94 V-0 ABS
Lens	Polyethylene
Dimensions	Face 2.59"H x 1.30"W, 0.61"D (from wall out)
Mounting Height	42 to 54 inches above floor

Environmental

Operating	32°F to 122°F (0°C to 50°C) with rate of change not exceeding 20°F (11°C) per hour; 20% to 90% non-condensing relative humidity
Storage	-40°F to 150°F (-40°C to 65°C); 20% to 90% non-condensing relative humidity

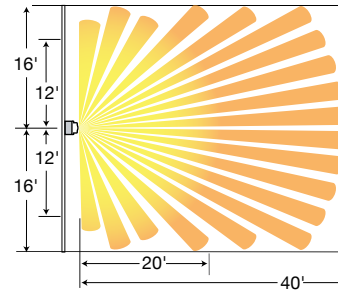
Controls	WS1000/WS2000 Series	WS1001/WS1020 Series
Time Delay	Manual 6 seconds to 20 minutes	
Ambient Light	Digital, pushbutton, 10 to 500 foot candles	N/A
Front Press Switch	ON/OFF	ON/OFF
Service Switch	OFF (service) Vac (manual ON) Occ (auto ON)	OFF (service) ON (service)

Sensing Indicator

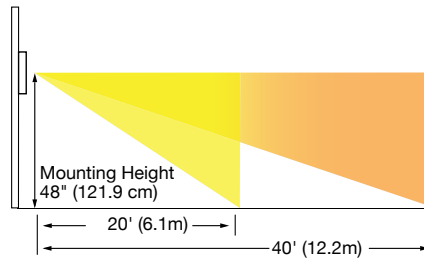
Passive Infrared	Red LED
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Wall Switches Coverage Patterns

Minor Motion: ■ PIR Major Motion: ■ PIR



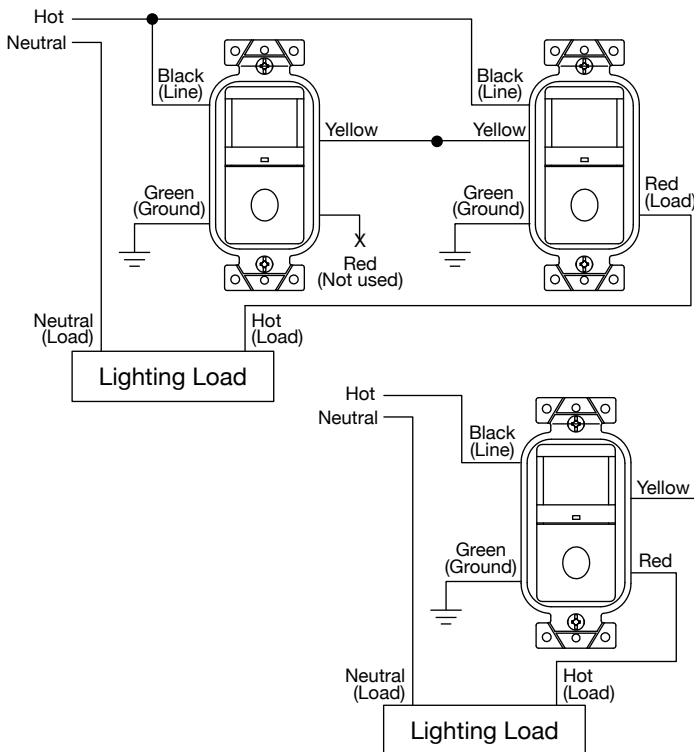
WS2000, WS1000 and WS1020 Series



Vertical Coverage
WS2000, WS1000 and WS1020 Series

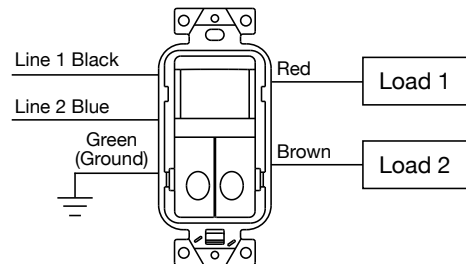
Wiring Schematic WS2000, WS1000 and WS1020 Series Wall Switches

WS2000 Series Wall Switch Sensors



WS1020 Series Wall Switch Sensors

Dual Circuit Sensor, Wired for Dual Circuits



Energy Efficiency Solutions

Adaptive Dual Technology, Ultrasonic and Passive Infrared Ceiling and Wall Mount Sensors ATD, ATU, AHP and ATP Series

Electrical

Power Requirements	24V DC nominal, 33mA from Hubbell CU series control unit
Isolated Relay (sensors with RP suffix)	Relay: N/O + N/C contacts; 500mA rated @ 24V DC; 3-wire isolated relay
Agency Approvals	UL and cUL Listed

Physical

	Ceiling Sensors	Wall Mount Sensors
Housing	Flame retardant UL 94 V-0 ABS	Flame retardant UL 94 V-0 ABS
Protection	NEMA 4X, when used with ACIPE	NEMA 4X, IP66, outdoor use rated (AHP only)
Lens	Polyethylene	Polyethylene
Dimensions	1.5"H x 4.5"Diameter	6"H x 2"W x 1.5"D
Color	Office white	Office white; Gray (AHP series)
Mounting Height	8 to 12 feet	8 to 12 feet, 8 to 30 feet (ATP120HB series)

Environmental

Operating	32°F to 104°F (0°C to 40°C) with rate of change not exceeding 20°F (11°C) per hour; 0% to 95% non-condensing relative humidity
	-40°F to 149°F (-40°C to 65°C) with rate of change not exceeding 20°F (11°C) per hour; 0% to 95% non-condensing relative humidity (AHP series)
Storage	-20°F to 150°F (-29°C to 65°C); 0% to 95% non-condensing relative humidity

Controls

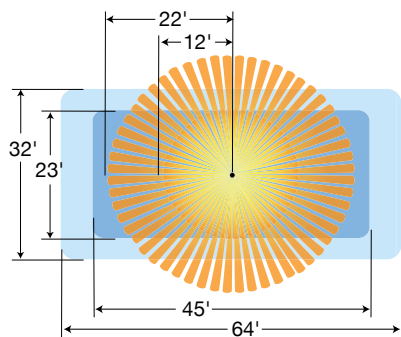
Time Delay	Test (8 seconds), adaptive 8 to 40 minutes
Ambient Light	1 to 1000 foot candles
Sensitivity	Adaptive 0 to 100%

Sensing Indicators

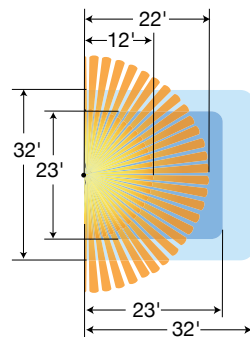
Ultrasonic (ATD and ATU Series)	Green LED
Passive Infrared (ATD, AHP and ATP Series)	Red LED

Ceiling Sensors Coverage Patterns

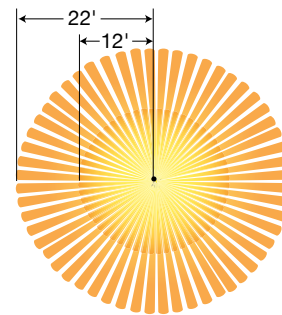
Minor Motion: ■ Ultrasonic ■ PIR Major Motion: ■ Ultrasonic ■ PIR



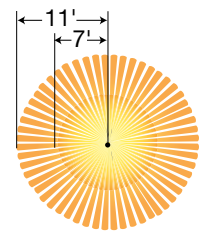
ATD2000C Series



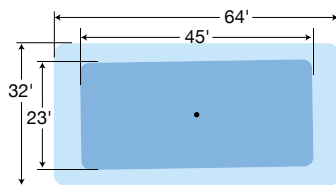
ATD1000C Series



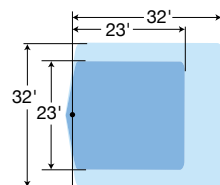
ATP1500C Series
AHP1500CRP Series



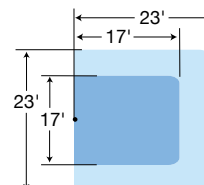
ATP600C Series



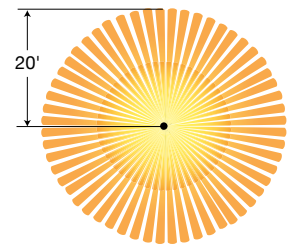
ATU2000C Series



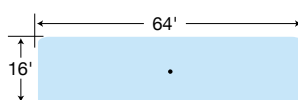
ATU1000C Series



ATU500C Series



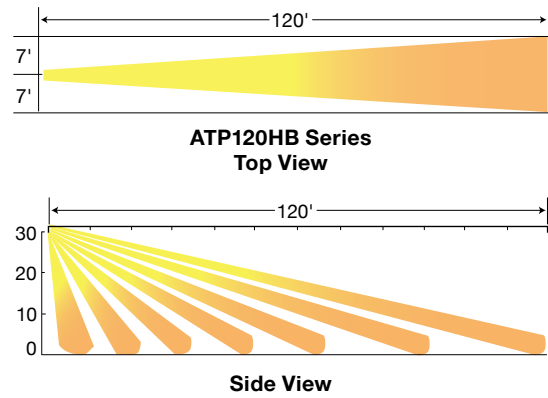
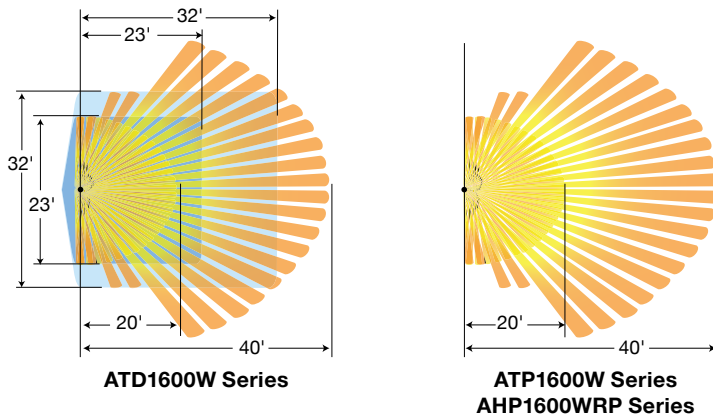
LVPR1500R(P)



ATU2000C Series
Hallway Application

Wall Mount Sensors Coverage Patterns

Minor Motion: ■ Ultrasonic ■ PIR Major Motion: ■ Ultrasonic ■ PIR



Control Units - CU300A or CU300M and CU300HD Series

Electrical	CU300A or CU300M	CU300ELC	CU300HD
Power Supply	100-277V AC, 50/60Hz	100-277V AC	100-277V AC, 50/60Hz
Power Output	24V DC, 150mA	N/A	24V DC, 250mA
Load Capacity	16A, 8A LED	16A	20A
Motor Loads	1HP	1HP	1HP @ 120V 2HP @ 240/277V
AT Sensor/AAR Capacity	1 to 4 combined		1 to 6 combined
Agency Approvals	UL and cUL Listed	cULus Listed	cULus Listed

Physical		
Housing	Flame retardant UL94-5VA thermoplastic	Flame retardant UL94-5VA thermoplastic
Dimensions	3.69"L x 2.33"W x 1.36"H	4.00"L x 3.4"W x 1.73"H
Color	Black	Black

Environmental		
Operating	32°F to 104°F (0°C to 40°C); 0% to 90% non-condensing relative humidity	-40°F to 149°F (-40°C to 65°C). Below 32°F (0°C) must use suitably rated non-metallic enclosure. 0% to 90% humidity, non-condensing
Storage	-20°F to 150°F (-29°C to 65°C); 0% to 90% non-condensing relative humidity	

Add-A-Relay Control Units

Electrical	AAR	AAR20P
Power Input	24V DC nominal, 33mA from Hubbell CU series control unit	24V DC nominal, 50mA from Hubbell CU300HD series control unit
Load Capacity	16A, 120/277V AC, 8A LED	20A, 100-277V AC
Motor Loads	1800 watts	Motor Loads
1HP @ 120V	2400 watts	1HP @ 120V
2HP @ 240/277V	2400 watts	2HP @ 240/277V
Operation Mode	Auto ON/Auto OFF	Selectable Auto ON/Auto OFF or Manual ON/Auto OFF
Agency Approvals	UL and cUL Listed	cULus Listed

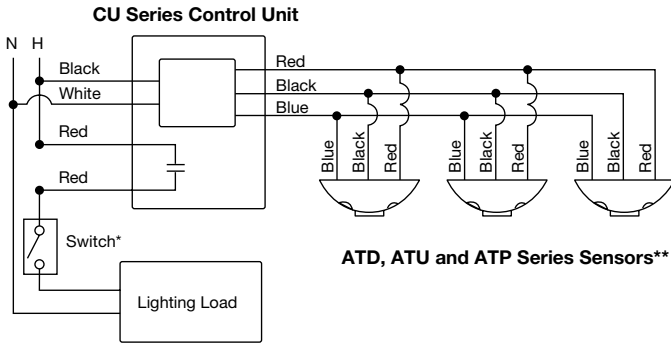
Physical		
Housing	Flame retardant UL94-5V thermoplastic	Flame retardant UL94-5VA thermoplastic
Dimensions	3.69"L x 2.33"W x 1.36"H	4.00"L x 3.4"W x 1.73"H
Color	Black	Black

Environmental		
Operating	32°F to 104°F (0°C to 40°C); 0% to 90% non-condensing relative humidity	-40°F to 149°F (-40°C to 65°C). Below 32°F (0°C) must use suitably rated non-metallic enclosure. 0% to 90% humidity, non-condensing
Storage	-20°F to 150°F (-29°C to 65°C); 0% to 90% non-condensing relative humidity	

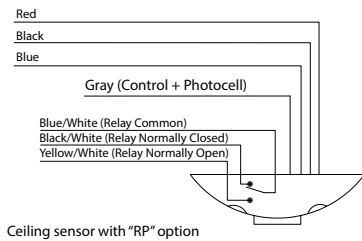
Energy Efficiency Solutions

Ceiling and Wall Mount Sensors ATD, ATU and ATP Series

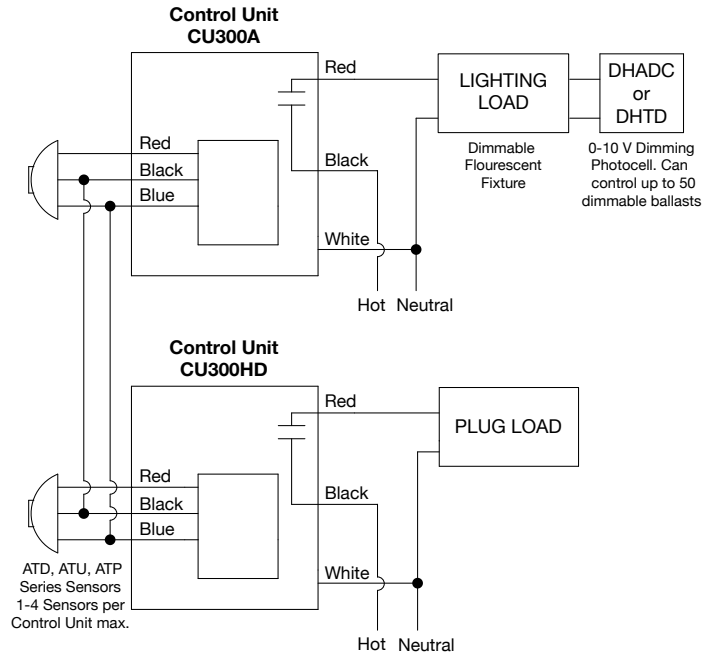
Single lighting circuit 1 to 4 sensors wired to control unit with optional override OFF switch application.



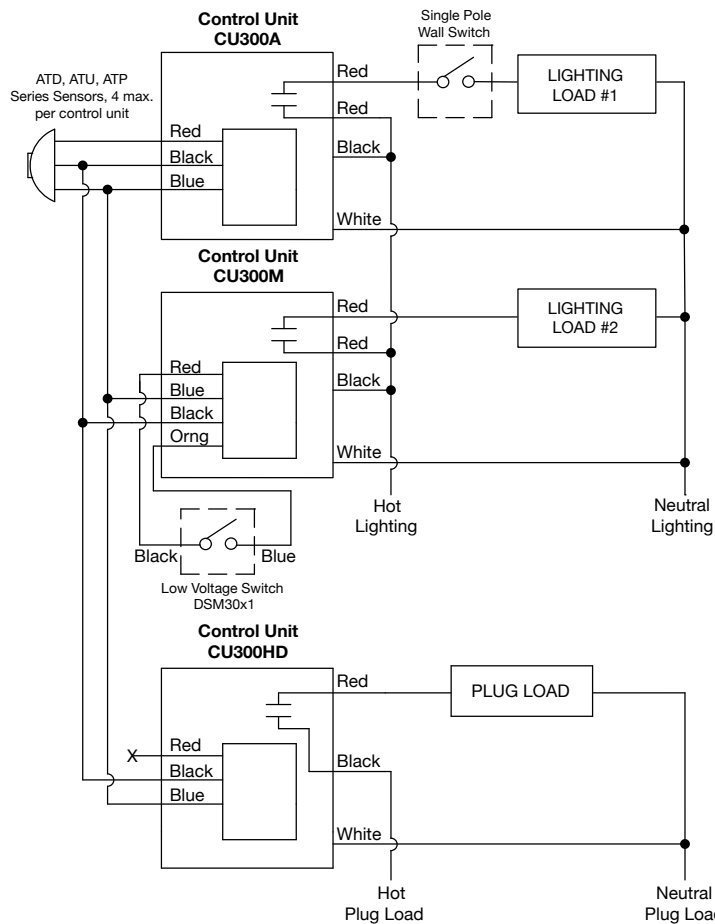
*Optional Override OFF Switch



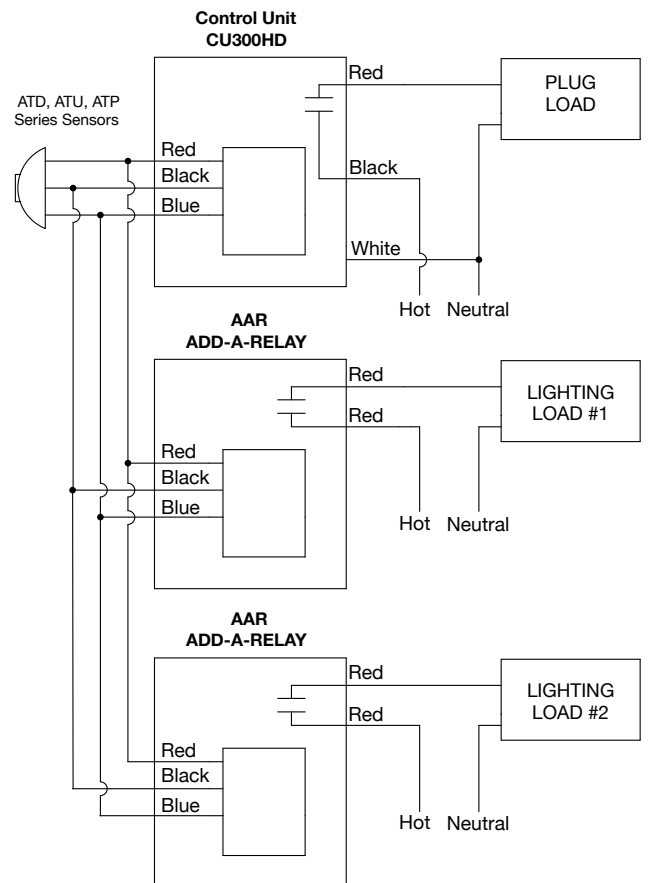
Single lighting circuit with 0-10V dimming and automatic receptacle control application.



Bi-level lighting circuit and automatic receptacle control application.



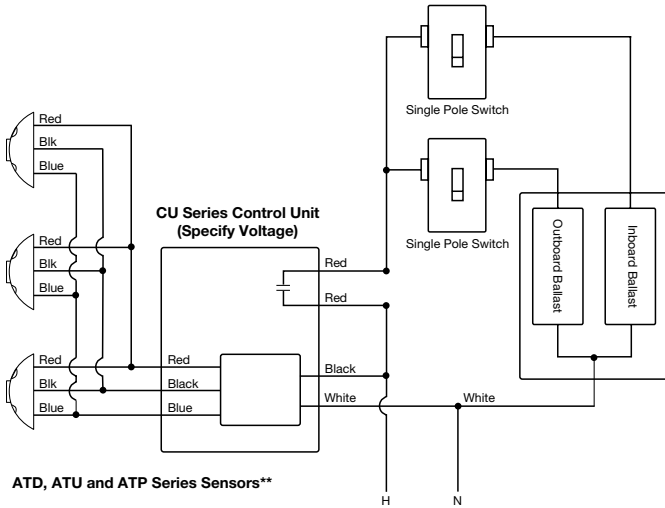
Two lighting circuits and automatic receptacle control application.



Energy Efficiency Solutions

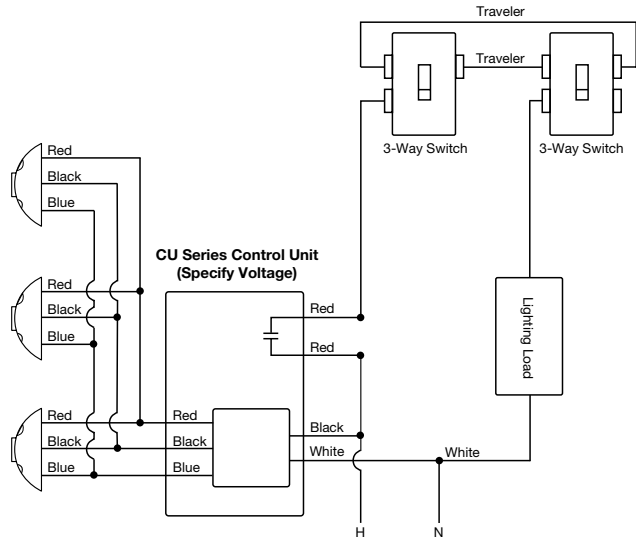
Adaptive Technology Dual, Ultrasonic, and Passive Infrared Ceiling and Wall Mount Sensors ATD, ATU and ATP Series

Single Circuit, Dual Level Switching Application:
1 to 4 sensors wired to control unit with optional override off switches.



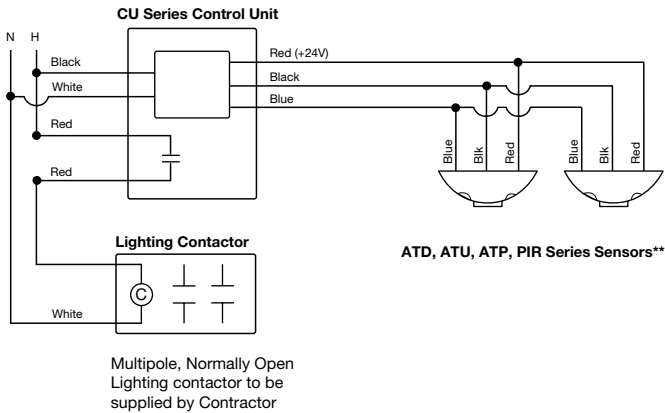
ATD, ATU and ATP Series Sensors**

Single Circuit, 3-Way Switching Application:
1 to 4 sensors wired to control unit with optional override off switches.



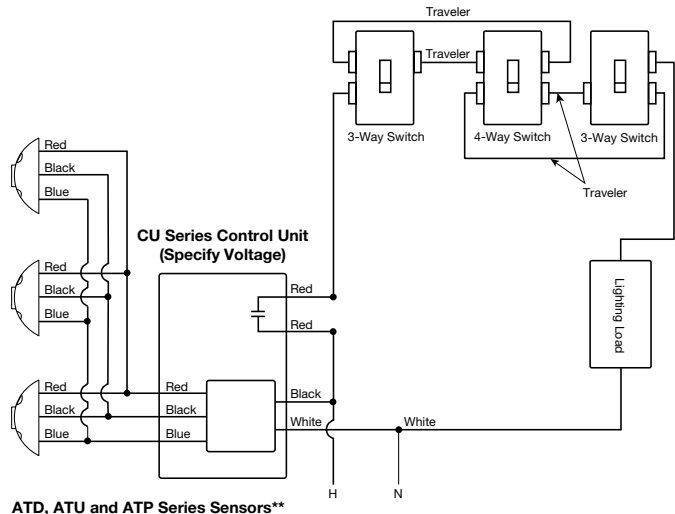
ATD, ATU and ATP Series Sensors**

Multi-Circuit Application:
1 to 4 sensors wired to control unit that is wired to a multi-pole lighting contactor.



ATD, ATU, ATP, PIR Series Sensors**

Single Circuit, 4-Way Switching Application:
1 to 4 sensors wired to control unit with optional override off switches.

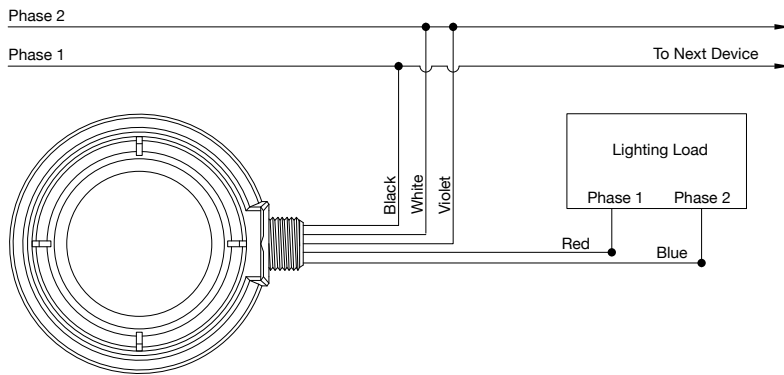
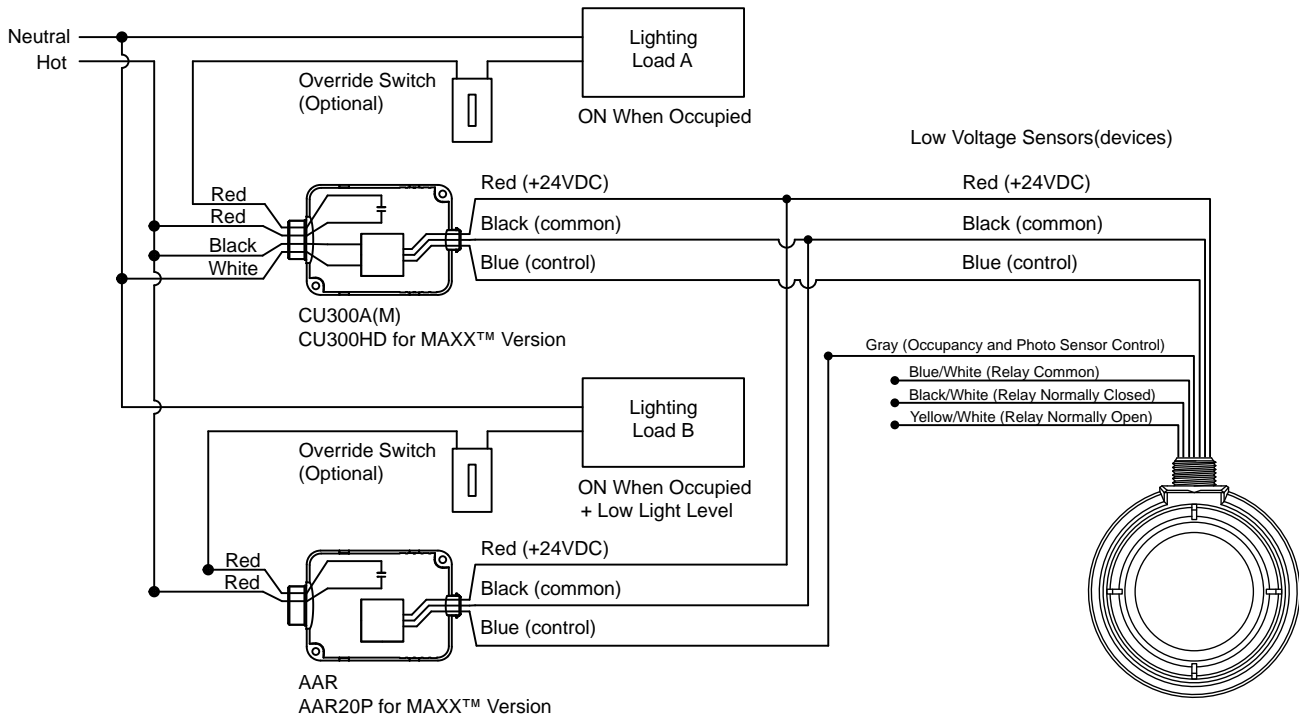


ATD, ATU and ATP Series Sensors**

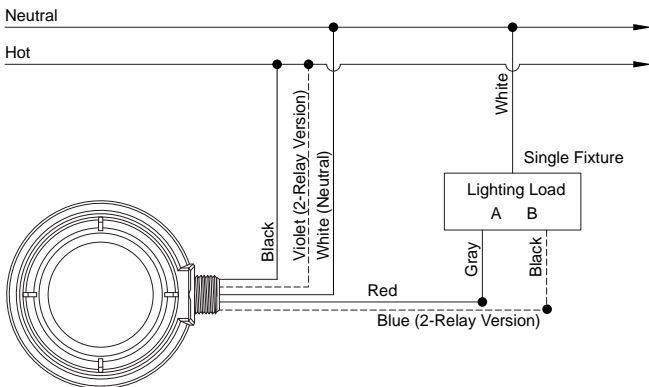
Note: **For wiring sensors with isolated relay and photocell option (models with "RP" suffix): Photocell Option: Cap off Blue sensor wire. Connect Gray sensor wire to Blue control unit wire. Isolated Relay Option: Common-Blue/White wire, Normally Closed-Black/White wire, Normally Open-Yellow/White wire.

Energy Efficiency Solutions

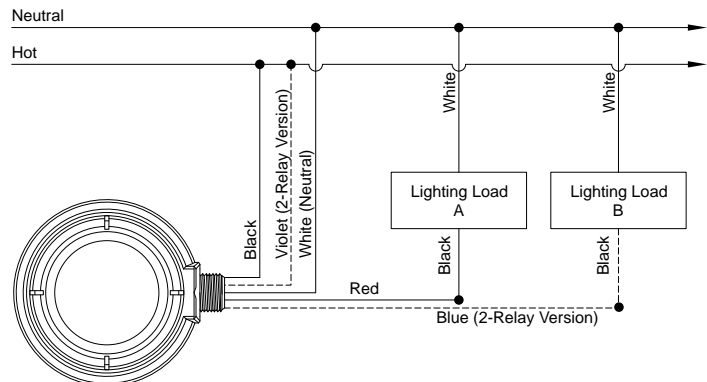
OPTIMYZER® High Bay and Low Bay End Mount PIR Sensors, Low Voltage Sensor with Control Unit



OPTIMYZER® High Bay and Low Bay End Mount PIR Sensors, Dual Relay, Single Fixture



OPTIMYZER® High Bay and Low Bay End Mount PIR Sensors, Dual Relay, Two Fixtures





HBL® Heavy Duty Style Line® Specification Grade and Hospital Grade Straight Blade Switched Duplex Receptacles

Specifications

Receptacle	Part	Description
Typical Specification - Catalog No. HBL5262LC1, HBL2172LC1	Receptacle	15A (Always Hot), 8.3A (Switched)
Manufacturer's Identification - Hubbell HBL5262LC1 Receptacle	Top	Nylon
Description - Straight Blade Switched Duplex Receptacle	Base	Nylon
Type - 2 Pole, 3 Wire Grounding	Power Contacts	0.031 in. (0.8) Brass
Rating - Uncontrolled (Always Hot) 15A, 125V	Wire Clamp	0.062 in. (1.6) Steel-Nickel Finish
- Controlled (Switched) Tungsten 8.3A, CFL & LED: 3.75A	Mounting Strap	0.047 in. (1.2) Brass
Motor Load: 1/2HP	Line Terminal Screws	#8-32 Brass, Multiple Drive
Certification - cULus 498B SA: UL File No. E481574	Ground Screw	#8-32 Brass, Multiple Drive
Fed. Spec. WC596G	Center Assembly Staple	0.040 in. (1) Steel (Galvanized)
	Automatic Self-Grounding Staple	Stainless Steel
	Mounting Screws	Zinc Plated Steel

Specifications

Receptacle	Part	Description
Typical Specification - Catalog No. HBL5362LC1, HBL2182LC1	Receptacle	20A (Always Hot), 12.5A (Switched)
Manufacturer's Identification - Hubbell HBL5362LC1 Receptacle	Top	Nylon
Description - Straight Blade Switched Duplex Receptacle	Base	Nylon
Type - 2 Pole, 3 Wire Grounding	Power Contacts	0.031 in. (0.8) Brass
Rating - Uncontrolled (Always Hot) 20A, 125V	Wire Clamp	0.062 in. (1.6) Steel-Nickel Finish
- Controlled (Switched) Tungsten 12.5A, CFL & LED: 5A	Mounting Strap	0.047 in. (1.2) Brass
Motor Load: 1HP	Line Terminal Screws	#8-32 Brass, Multiple Drive
Certification - cULus 498B SA: UL File No. E481574	Ground Screw	#8-32 Brass, Multiple Drive
Fed. Spec. WC596G	Automatic Self-Grounding Staple	Stainless Steel
	Mounting Screws	Zinc Plated Steel

Performance

Electrical (Always Hot Receptacle)

Dielectric Voltage	Withstands 2,000V minimum.
Max. Working Voltage	125V AC
Current Interrupting	Certified for current interrupting at full current.
Temperature Rise	Max 30°C temperature rise at full rated current after 50 cycles of overload at 150% of rated current at power factor of 75%.

Mechanical

Terminal Identification	Terminals identified in accordance with UL498 and CSA (Brass, White, Green).
Terminal Accomodation	#14-10 AWG stranded or solid copper conductor only.
Product Identification	Ratings are a permanent part of the device.

Environmental

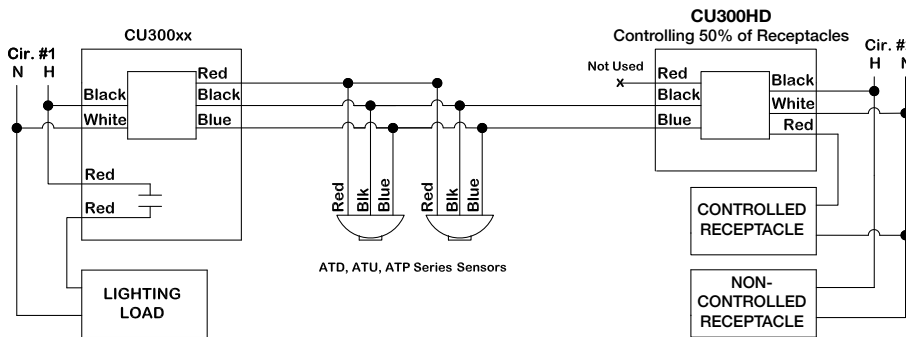
Flammability	UL94V-2
Operating Temperature	32°F (0°C) to 104°F (40°C)

WLC Load Control Devices with Wireless Clear Connect Communication

Electrical	WLCA	WLCU301	WLC301	WLC302	WLC402W
Power Supply	24V DC	100-277V AC, 50/60Hz	100-277V AC, 50/60Hz	100-277V AC, 50/60Hz	100-277V AC, 50/60Hz
Power Output	N/A	24V DC 250mA	N/A	N/A	N/A
Circuits Controlled	N/A	1	1	2	2
Load Capacity		100-277V AC, 20A 1HP @ 120V AC 2HP @ 240/277V AC	100-277V AC, 20A 1HP @ 120V AC 2HP @ 240/277V AC	100-277V AC, 20A 1HP @ 120V AC 2HP @ 240/277V AC	100-277V AC, 20A 1HP @ 120V AC 2HP @ 240/277V AC
Agency Approvals	UL Listed, cULus, FCC, IC, UL/cUL 916 listed for energy management equipment				
Device Type (Transmit or Receive)	TX	TX	RX	RX	RX
Range (Standard/Obstructed)	30 ft. (10m)	30 ft. (10m)	30 ft. (10m)	30 ft. (10m)	30 ft. (10m)
Range (Unobstructed, line of sight)	60 ft. (30m)	60 ft. (30m)	60 ft. (30m)	60 ft. (30m)	60 ft. (30m)

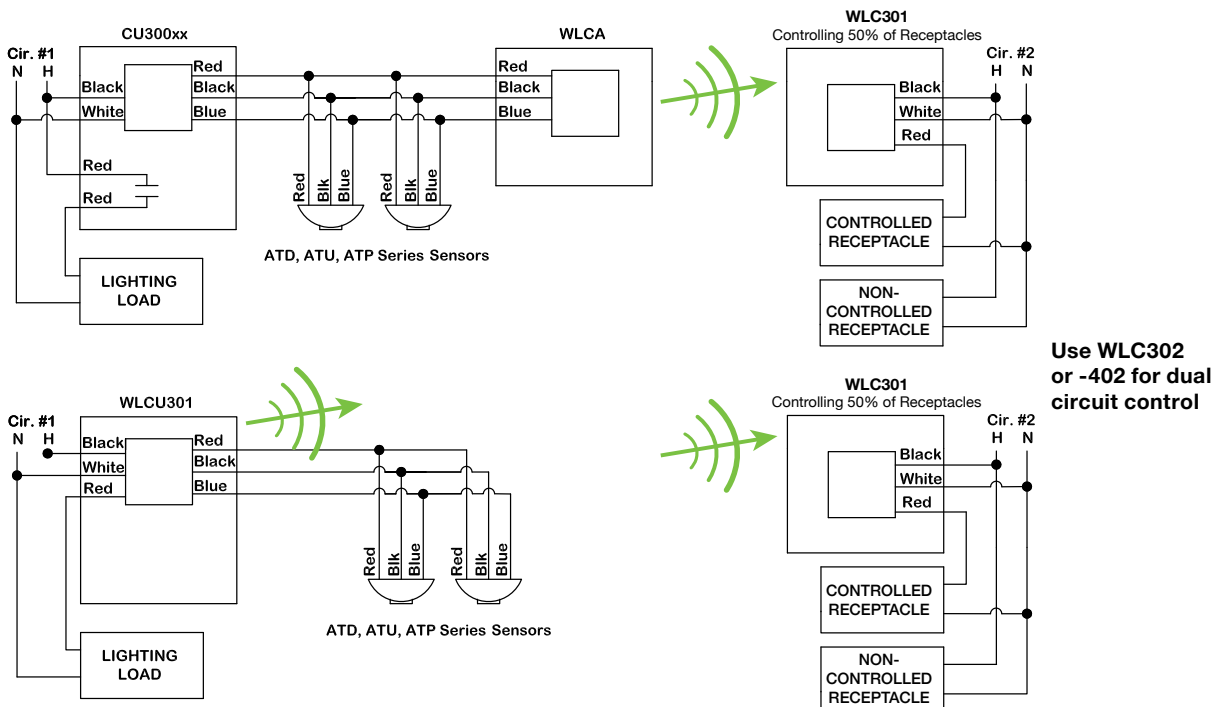
Physical					
Housing	Flame retardant UL 94-5VA thermoplastic				
Dimensions	4.00"L x 3.4"W x 1.73"H				4.68"L x 4.94"W x 2.78"H
Color	Black	Black	Black	Black	White

Wired Load Control



Wireless Load Control

Easily upgrade existing occupancy based lighting control systems to support automated receptacle control systems.



Clear Connect® is a registered trademark of Lutron Electronics Co., Inc.

Energy Efficiency Solutions

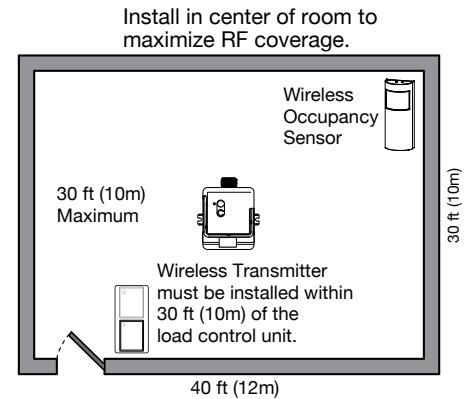
Wireless Wall Switch (WLS1278 Series)

Electrical	Operating voltage: 120/277V AC, 50/60Hz; Green indicator light
Operating Environment	Indoor use only Ambient operating temperature: 32°F to 104°F (0°C to 40°C); relative humidity: 0% to 90% humidity, non-condensing
Wire Size	#20 to 16 AWG (0.5 to 1.5mm ²) solid or stranded wire
Capacity	Up to 9 WLAS accessory switches can be configured to work together with one WLS1278
Range	RF range is 30 ft. (10m) obstructed, 60 ft. (18m) line of sight
Certifications	UL Listed, CSA Certified, FCC Approved; Complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules
Warranty	1 year

Wireless Control Unit (WLC316R)

Electrical	Operating voltage: 120/277V AC, 50/60Hz LED status indicator: displays load status and provides programming feedback Power failure memory: (Relay returns to previous level prior to interruption) Output is non-latching
Operating Environment	Indoor use only Ambient operating temperature: 32°F to 131°F (0°C to 55°C); Relative humidity: 0% to 90% humidity, non-condensing
Load	Maximum load: 16A general purpose. No minimum Motor rating: 0.5 HP (120V AC), 1.5 HP (277V AC)
Isolated Relay	Normally open (NO) and normally closed (NC) dry contacts Maintained latching output The isolated relay is not rated to control unclamped, inductive loads Inductive loads include, but are not limited to relays, solenoids and motors to control these types of equipment
Range	RF range is 30 ft. (10m) obstructed, 60 ft. (18m) line of sight
Certifications	UL Listed, UL 2043 Plenum Rated, FCC Approved. Complies with the limits for a Class B device, pursuant to Part 15 of the FCC rules. CSA and IC
Warranty	1 year

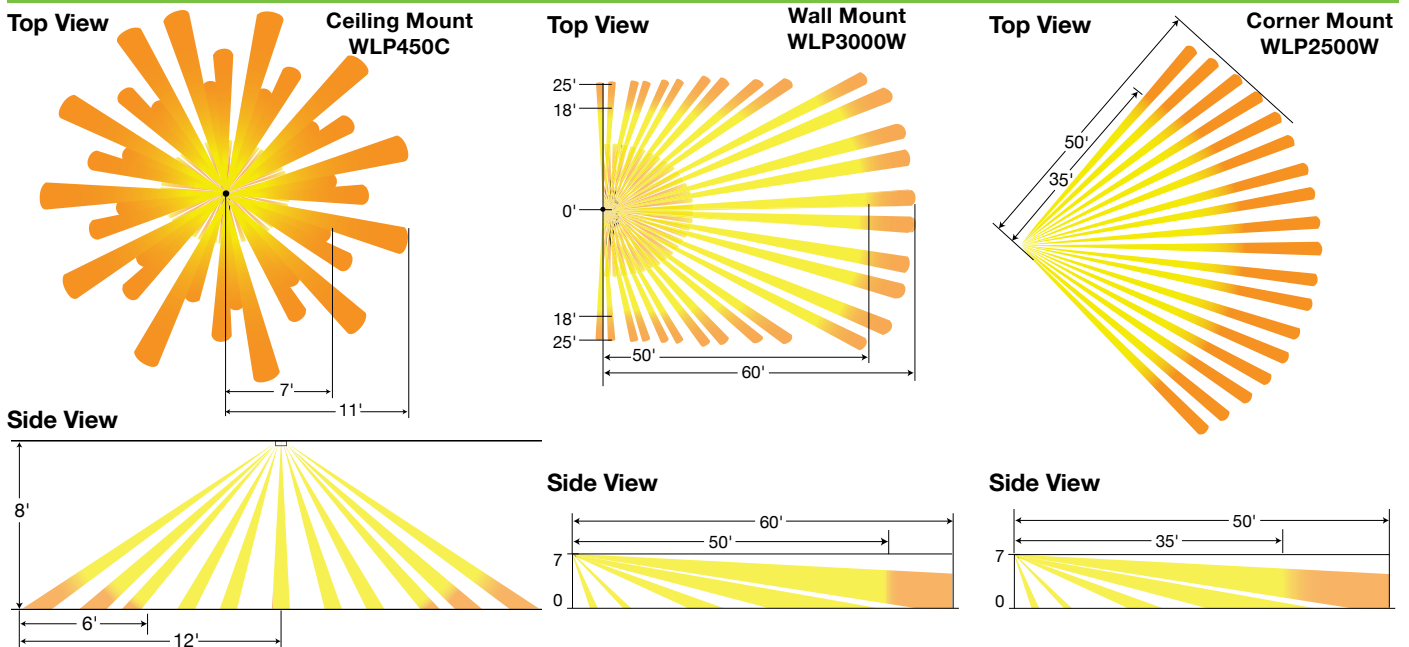
Range Diagram



Line of sight distance, 60 ft (18m)

Contact Hubbell first for applications using foil-backed or metallic ceiling tiles.

Wireless Sensor Coverage Patterns



Sensor Coverage Chart (for sensor mounted in center of room)

Ceiling height	Maximum room dimensions for complete floor coverage*	
8 ft. (2.4m)	18 ft. x 18 ft. (5.5m x 5.5m)	324 sq. ft. (30.2m ²)
9 ft. (2.7m)	20 ft. x 20 ft. (6.1m x 6.1m)	400 sq. ft. (37.2m ²)
10 ft. (3.0m)	22 ft. x 22 ft. (6.7m x 6.7m)	484 sq. ft. (44.9m ²)
12 ft. (3.7m)	26 ft. x 26 ft. (7.9m x 7.9m)	676 sq. ft. (62.4m ²)

Note: *12 ft. (3.7m) is the recommended maximum mounting height.

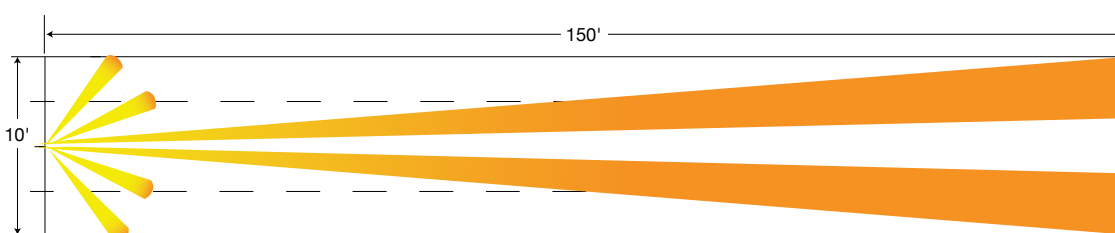
Clear Connect® is a registered trademark of Lutron Electronics Co., Inc.

Wireless Hallway Sensor

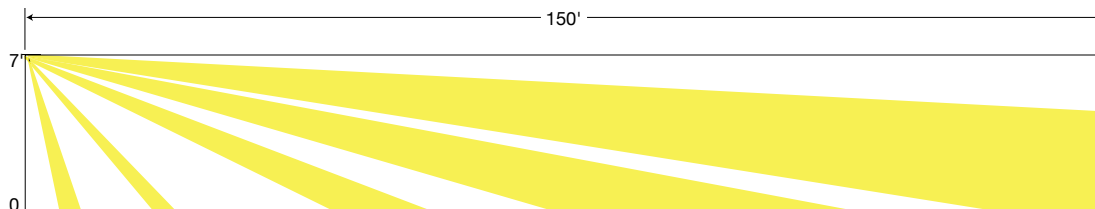
Electrical	Operating voltage: 3V Operating current: 14 μ A nominal 10-year battery life design Supplied with one CR 123 lithium battery Non-volatile memory (saved changes are stored during power loss)
Construction	High impact, UL 94-5V plastic
Operating Environment	Indoor use only Operating temperature: 32°F to 104°F (0°C to 40°C)
Range	RF range is 30 ft. (10m) obstructed, 60 ft. (18m) line of sight
Sensor Coverage Test	Dedicated test button Lens illuminates orange in response to motion during test mode
Wireless Communication Test	Dedicated test button; Turn associated loads ON and OFF
Time Out Options	1 minute (intended for use in high-activity, briefly occupied areas only); 5 minutes; 15 minutes (default setting); 30 minutes
Auto ON Options	“Enabled” – Sensor turns lights ON and OFF automatically – default setting “Disabled” – Lights must be turned ON manually from a switching device Sensor turns lights OFF automatically
Sensitivity Options	Low Activity (default setting); Medium Activity; High Activity
Certifications	cULus Listed, FCC Certified, IC Certified Meets CA (USA) Energy Commission Title 24 requirements
Warranty	1 year

Wireless Hallway Sensor Coverage Patterns

Top View



Side View



WLP150H

Sensor Coverage Chart (Hallway)

Width of Hall	Length of Hall
6 ft. (1.0m) or less	50 ft. (15.2m)
8 ft. (2.4m)	100 ft. (30.5m)
10 ft. (3.0m) or more	150 ft. (45.7m)

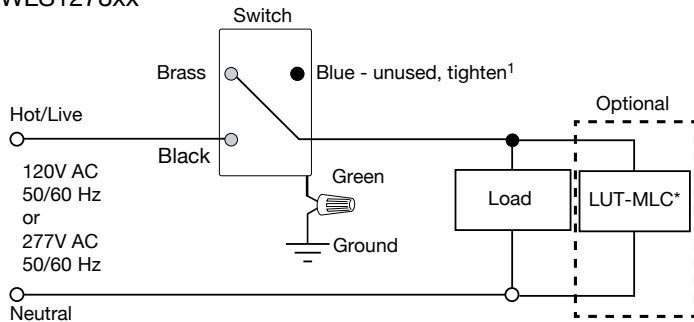
Note: Sensor mounting shown at 7 ft. (2.1m) Mounting height should be between 6 and 8 ft. (1.6 and 2.4m).

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Energy Efficiency Solutions

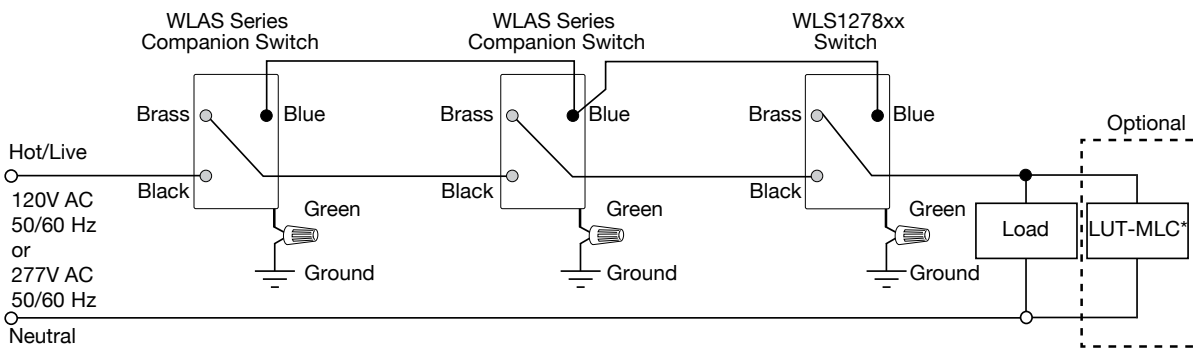
Wireless Wall Switch (WLS1278 Series)

Single Location Installation WLS1278xx*



Note: *The included LUT-MLC ensures proper function when fluorescent, CFL, or LED loads are used. Install the LUT-MLC inside a load fixture or in a separate J-box of the circuit.
 1 When using controls in single location installations, tighten the blue terminal without any wires attached. DO NOT connect the blue terminal to any other wiring or to ground.
 2 Up to 9 Accessory Switches may be connected to the Wireless Switch. Total blue terminal wire length may be up to 250 ft. (76m).
 3 Requires WLAS120 for 120V AC applications, and WLAS277 for 277V AC applications.

Multi-Location Installation² with WLAS1278xx or WLAS277xx³



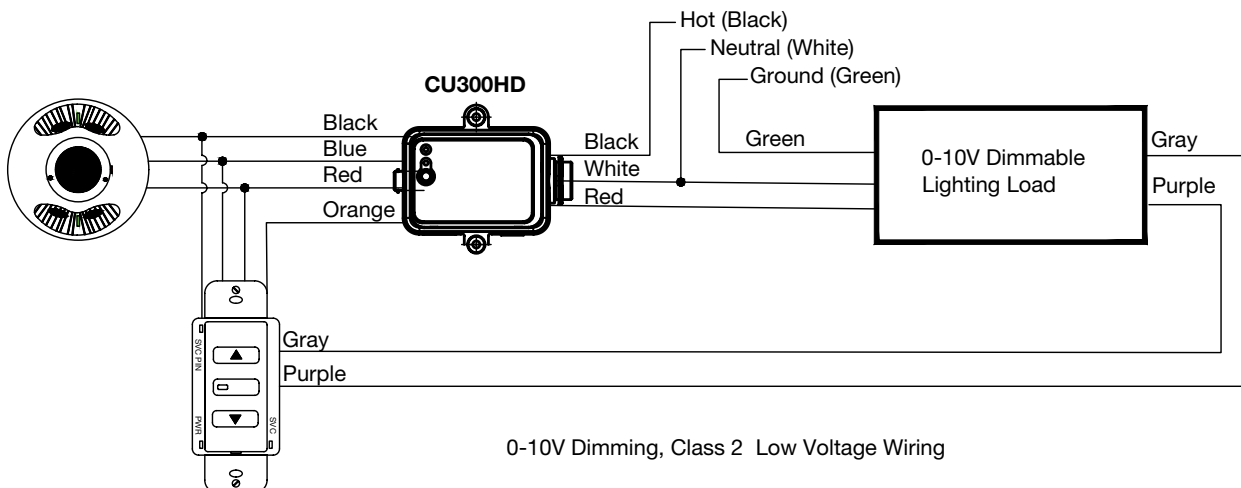
Low Voltage Switches with 0-10V Dimming

Specifications

Base Catalogs: DSM30xx, DSL30xx, DSC010xx, DSM010xx, DSL010xx
 Compatible with Hubbell Wiring Device-Kellems CU300HD, CU300M control units, AAR20P relay packs.
 0-10V Dimming Series compatible with IEC60929 Annex E.2 compliant LED Drivers
 Accepts Hubbell Wiring Device-Kellems NPS26 and NP26 series decorator style wall plates (Not Included)
 Two-year warranty

Electrical Ratings

100mA @ 30VDC
 0-10V Dimming Series: Current Sinking Capacity: 100mA
 Available in Latching, Momentary, and Combination (DSC010series) of both configurations



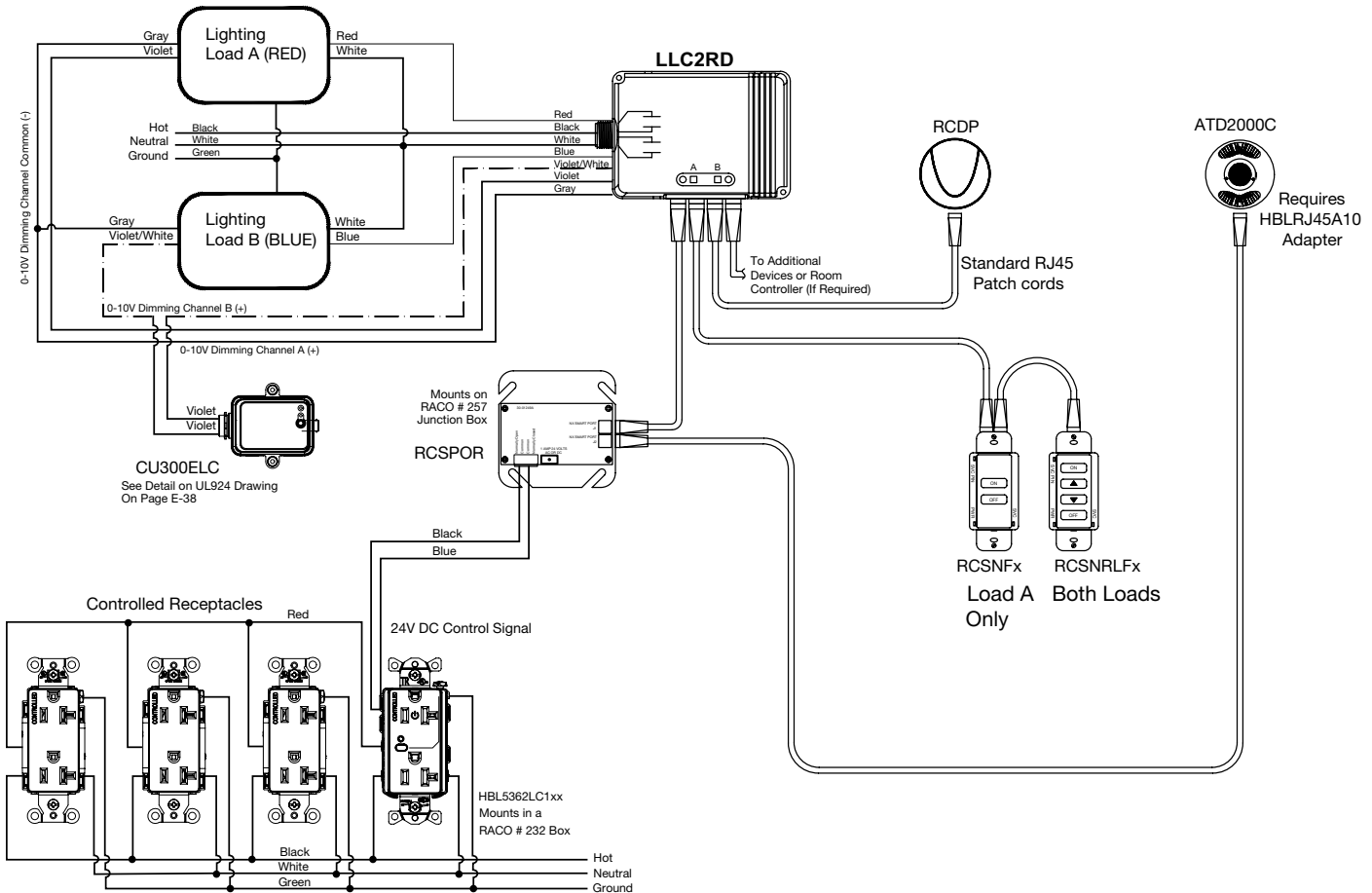
0-10V Dimming, Class 2 Low Voltage Wiring

Clear Connect® is a registered trademark of Lutron Electronics Co., Inc.

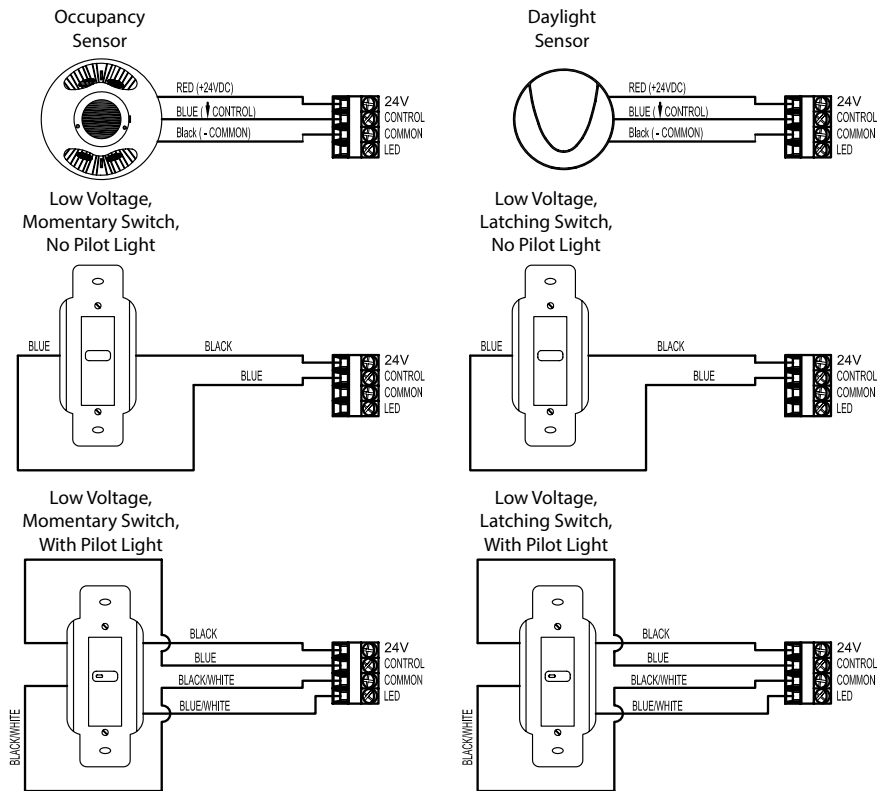
Distributed Control Load: Logic Room Controller

General Specifications

Electrical Ratings	Input: 120/277/347VAC, 20A Max, 60Hz 347VAC, 20A Max, 60Hz Output*: 20A, Tungsten, 120VAC only 20A, Magnetic Ballast, 8A LED 16A, Electronic Ballast, 8A LED 1 H.P. Motor @120V, 3/4 H.P. @277V; 1½ H.P.@347V *For (2) relay models the maximum combined output of both relays: 20A Low Voltage Ports: Class 2 24VDC, 250mA MAX (all outputs combined)
Dimming	0-10V, 60mA per channel (LLC2RD) For use with low-voltage, two-wire dimming ballast and LED drivers.
Operating Environment	Operating Temperature: 0°C to 40°C Relative humidity (non-condensing): 0 to 95%
Construction	Housing: GSM UL Rated 94 HB Plastic
Plenum rated	Complies with requirements for use in a plenum area Plenum rated for external junction box mounting
Size and Weight	Size: 5.75"L x 3.85"W x 1.30"H Weight: 4 oz
Color	Yellow
Mounting	Mounts directly to an external junction box through an extended ½" chase nipple.
Patents	Patent(s) Pending
Certifications	Conforms with UL916 and Certified to CAN/CSA C22.2 No. 205-M1983 IC Approved
Warranty	Five-year limited

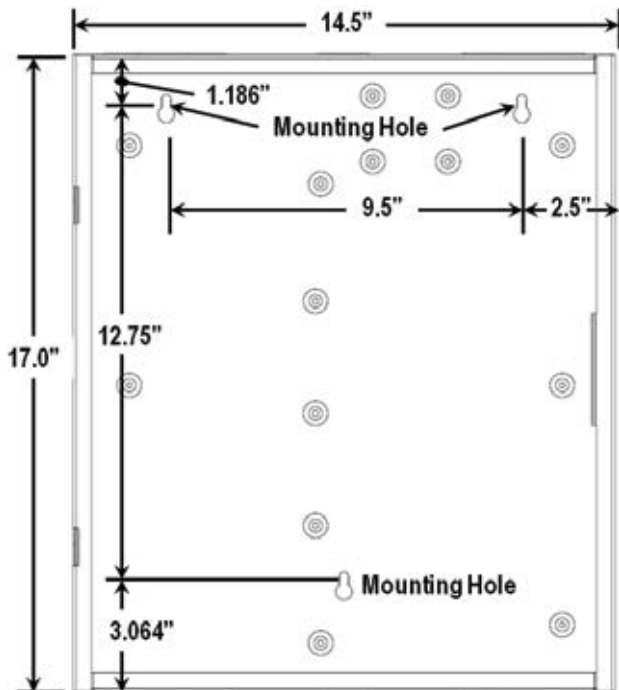


Centralized Control - Load:Logic® Control Panels, Low Voltage Connections

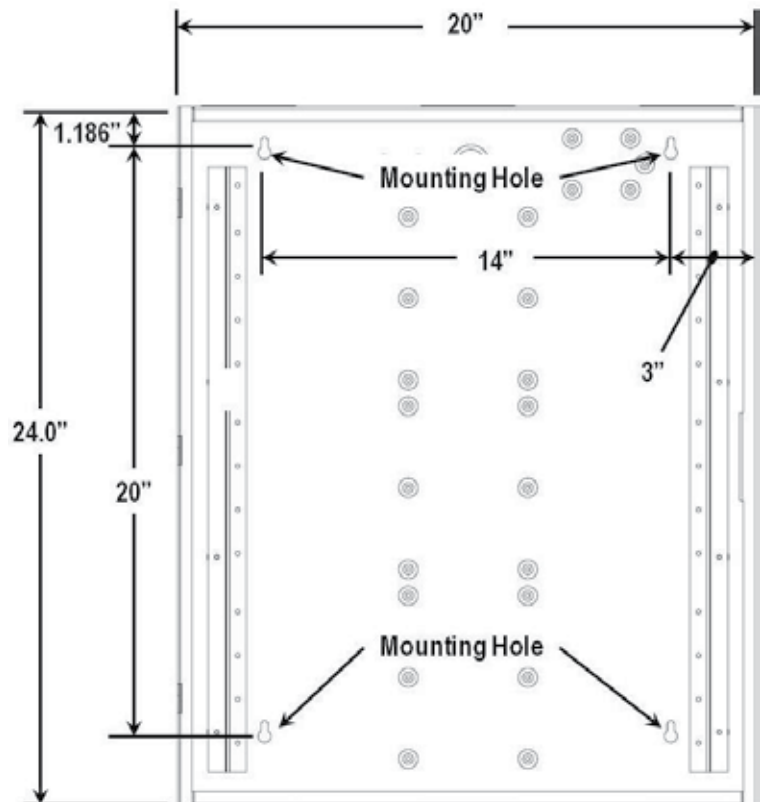


Enclosure Dimensions

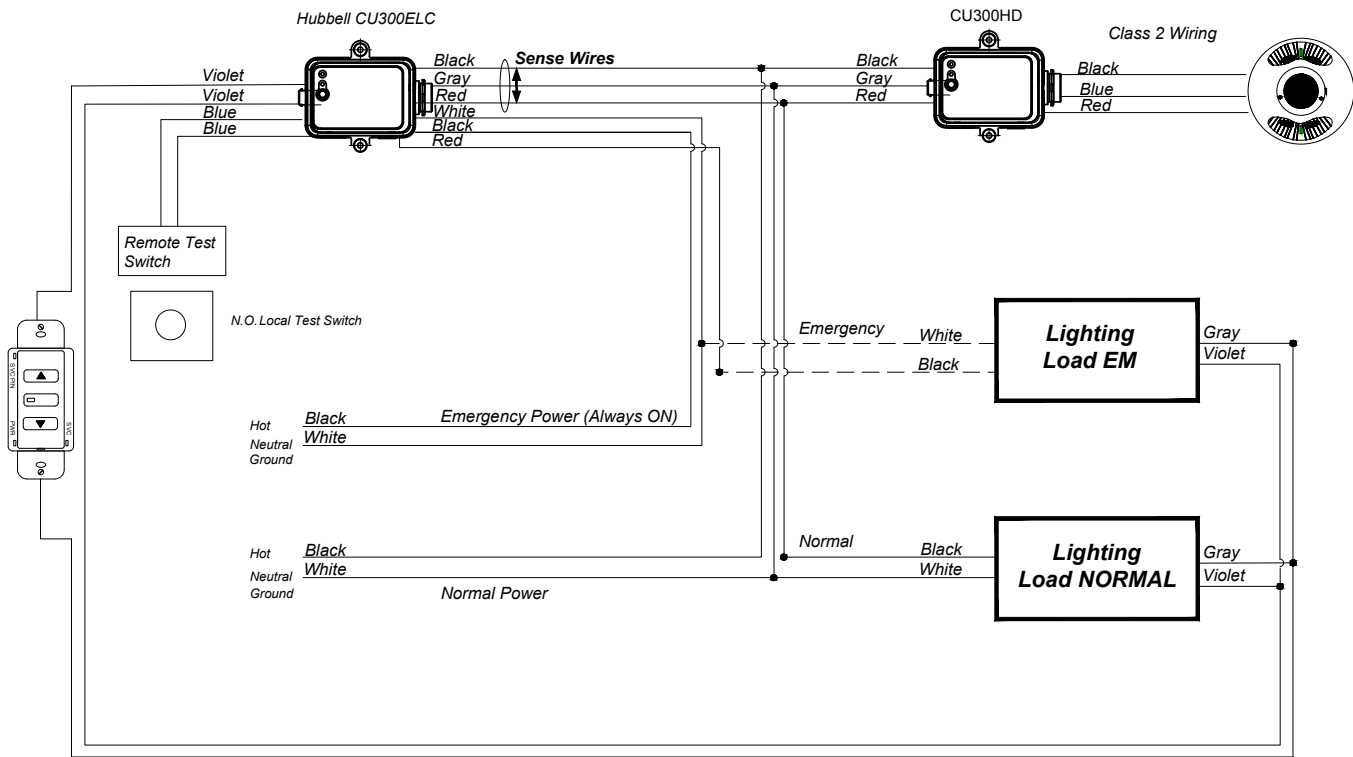
4/8 Relay Panels



16/24 Relay Panels



CU300ELC Unit Wired with Control Unit CU300HD



CU300ELC Unit Wired with Room Controller LLC2RD

