

OVERVIEW

The LSXR Family of fixture mount occupancy sensors provides reliable and versatile solutions for commercial and industrial lighting control applications. All LSXR Family sensors utilize passive infrared (PIR) detection and feature interchangeable lenses, providing flexibility for multiple mounting height and coverage pattern requirements. Available options include dual relays, HVOLT powering, and an integrated switching / dimming photocell.

All LSXR Family sensors utilize 100% digital Passive Infrared (PIR) detection and power from / switch line voltage. Available options include dual relays, HVOLT powering, and an integrated switching / dimming photocell.

FEATURES

- Four interchangeable lenses - high mount 360°, low mount 360°, high mount aisleway, and small motion 360°
- Integrated mounting bracket drops lens down 3" from chase nipple - no bracket accessory required
- 100% digital PIR detection - provides excellent RF immunity
- No PIR field calibration or sensitivity adjustments required
- Single or dual relay versions - designed with robust protection from the harsh switching requirements of T5 fluorescent and LED loads
- Powers from single or two-phase line connections
- Reversible hot & load wires - eliminates backwards wiring
- Photocell and 0-10 VDC dimming options
- Digital push-button programming - no tools or analog adjustments required
- Non-volatile settings memory
- Convenient test mode - quickens initial walk and/or photocell testing
- Green LED indicator
- LampMaximizer® minimum on timer (15 min) enables usage of shorter occupancy time delays while protecting fluorescent lamp life
- Default 10 minute occupancy time delay

Buy American (BAA)

This product is assembled in the USA and meets The Buy America(n) government procurement Requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

Warranty

Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

sensorswitch

LSXR BAA Family Fixture Mount Sensor



ORDERING INFORMATION

LSXR Single Relay				Example: LSXR 0 2P BAA
Series	Lens Options ¹	Dimming/Photocell	Voltage	Buy American Act
LSXR Passive Infrared Indoor Occupancy Sensor	Single Lens Multi-Lens 0 No Lens 4PK² All Lenses	[blank] None HL High/Low Occupancy Operation P Switching Photocell (On/Off) ADC Dimming & Switching Photocell ANL Dimming & Switching Photocell with High/Low Occ. Operation PC On/Off	[blank] 120-277 VAC (MVOLT)	BAA

1. Occupancy detection lens must be ordered separately. Select from accessory lens ordering block.
2. Only available in on off model.

ORDERING INFORMATION CONT.

LSXR Dual Relay		Example: LSXR 0 2P BAA	
		2P	
Series	Lens Options ¹	Poles	Voltage
LSXR Passive Infrared Indoor Occupancy Sensor	0 No Lens	2P Dual Relay	[blank] 120-277 VAC (MVOLT)

Accessory Lenses		Example: LENS 6
Lens Type		CI-Code
LENS 6 High Mount 360°		*233JNR
LENS 10 Low Mount 360°		*233JPK
LENS 50 High Mount Aisleway		*233JPX
LENS 9 Small Motion 360°		*233JPP

1. Occupancy detection lens must be ordered separately. Select from accessory lens ordering block.

COMMON CONFIGURATIONS

Model #	#of Relays	Photocell	0-10 VDC Dimming	Power	Notes on Operation
LSXR 0 HL	1	no	yes	120-277 VAC (MVOLT)	<u>Occ.</u> - High/Low/Off (if relay is wired) or High/Low (if relay is not wired)
LSXR 0	1	no	no	120-277 VAC (MVOLT)	<u>Occ.</u> - On/Off control
LSXR 0 P	1	yes	no	120-277 VAC (MVOLT)	<u>Occ.</u> - On/Off control <u>Photocell</u> - On/Off control
LSXR 0 ADC	1	yes	yes	120-277 VAC (MVOLT)	<u>Occ.</u> - On/Off (if relay is wired) or ~0V (if relay is not wired) <u>Photocell</u> - Dim to Off (if relay is wired or ~0V (if relay is not wired)
LSXR 610 2P	2	no	no	120/277 VAC	<u>Occ.</u> - On/Off control both relays
LSXR 610 ADC 3V J100*					

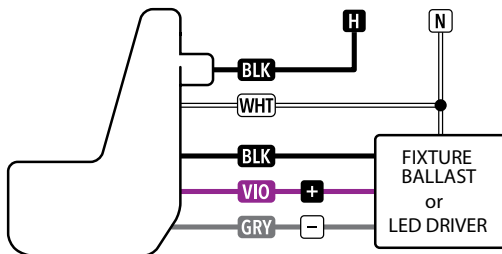
SPECIFICATIONS

Electrical	Input Ratings	120, 208-277V, 80 mA, 50/60Hz
	Output Ratings	120V 50/60Hz, 800W/6.67A - Standard Ballast, General Use, Electronic Ballast, Tungsten 208V 50/60Hz, 1040W/5.00A - Standard Ballast, General Use, Electronic Ballast, Tungsten 277V 50/60Hz, 1200W/4.33A - Standard Ballast, General Use, Electronic Ballast, Tungsten 120/208/277V, 1/4HP - Motor
	Relay Type	Latching
	Low Voltage Output Ratings	0-10VDC, Sinks <20mA
	Class Rating	0-10V Dimming can be wired Class 1 or 2
	Standards/ Ratings	Energy Management Equipment, UL916 (E167435)
Mechanical	Dimensions	3.75"H x 2.50"W x 4.00"D (95mm x 64mm x 102mm)
	Mounting	1/2" Knockout (7/8" hole)
	Color	White
	Connection Type	Low-Voltage Leads, Line-Voltage Leads
Environmental	Standards/ Ratings	NEMA WD 7-2011
	Warrantied Operating Temperature	Standard: 14°F to 140°F (-10°C to 60°C) LT Option: -4°F to 140°F (-20°C to 60°C)
	Relative Humidity	Up to 90%, Non-Condensing
	Standards/ Ratings	RoHS

WIRING DIAGRAMS- SINGLE RELAY

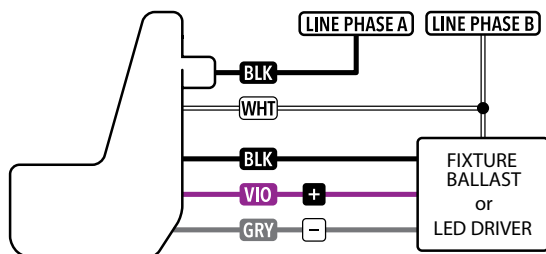
Single Phase Wiring

LINE VOLTAGE INTERCHANGEABLE LENS FIXTURE MOUNT:
SWITCHING AND DIMMING
120/277 VAC (MVOLT)

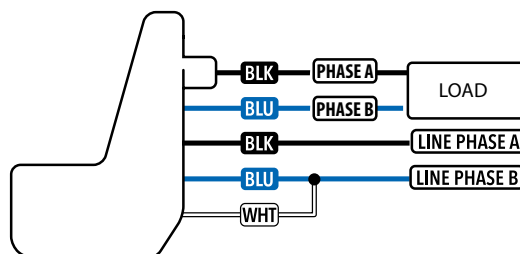


2 Phase Wiring

LINE VOLTAGE INTERCHANGEABLE LENS FIXTURE MOUNT:
SWITCHING AND DIMMING
208/240 VAC (MVOLT)



LINE VOLTAGE INTERCHANGEABLE LENS FIXTURE MOUNT:
2 PHASE SWITCHING
480 VAC (480 VAC)

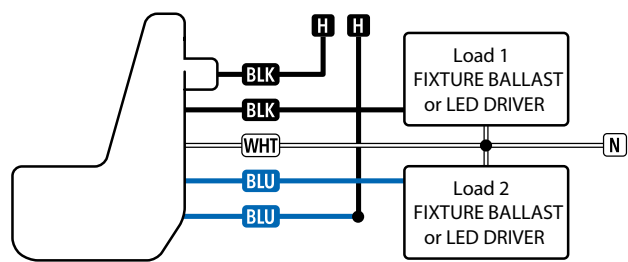


WIRING DIAGRAMS- DUAL RELAY (E.G., LSXR XX 2P)

Operational States for -DZ option

	Occupancy			No Occ.
	Low Daylight	Med. Daylight	High Daylight	
Load 1	On	Off	Off	Off
Load 2	On	On	Off	Off

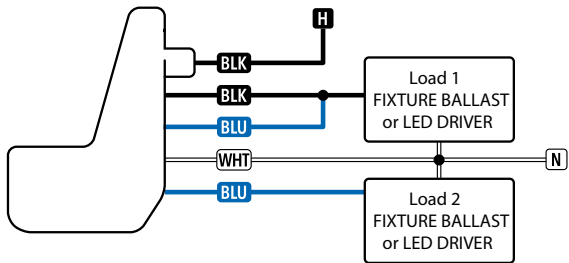
LINE VOLTAGE INTERCHANGEABLE LENS FIXTURE MOUNT:
2-POLE SWITCHING
120/277 VAC (MVOLT)



Operational States for -SZ option

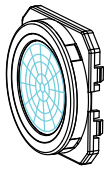
	Daylight / Occ.	Daylight / No Occ.	No Daylight & Occ.	No Daylight & No Occ.
Load 1	Off	Off	On	On
Load 2	Off	Off	On	Off

LINE VOLTAGE INTERCHANGEABLE LENS FIXTURE MOUNT:
2P W/ SINGLE ZONE ON/OFF PHOTOCONTROL (MVOLT)



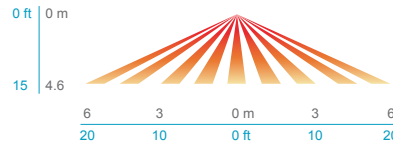
COVERAGE PATTERNS

HIGH MOUNT 360° LENS (#6)

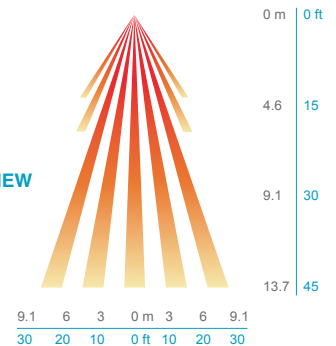


- Best choice for 15 to 45 ft (4.57 to 13.72 m) mounting heights
- 15 to 20 ft (4.57 to 6.10 m) radial coverage overlaps area lit by a typical high bay fixture
- Excellent detection of large motion (e.g. walking) up to a 35 ft (10.76 m) mounting height
- Excellent detection of extra large motion (e.g. forklifts) up to a 45 ft (13.72 m) mounting height
- Tested to NEMA WD 7-2011

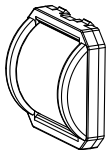
LOW VIEW



HIGH VIEW

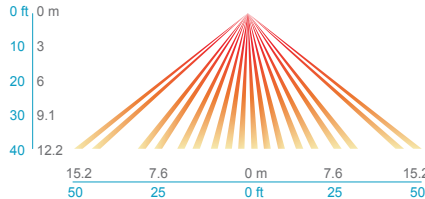


HIGH MOUNT AISLEWAY LENS (#50)

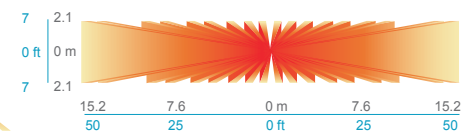


- Provides a bi-directional coverage pattern ideal for warehouse racking
- 1.2x mounting height equals approximate detection range in either direction
- Typical 40 ft (12.19 m) mounting detects 50 ft (15.24 m) in either direction
- Superior aisleway coverage compared to a masked 360° lens

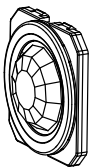
SIDE VIEW



TOP VIEW

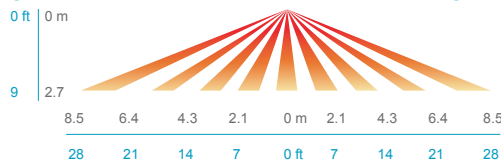


LOW MOUNT 360° LENS (#10)

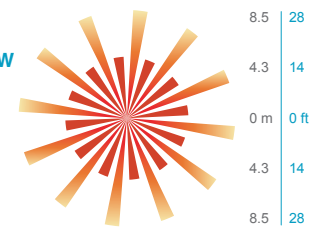


- Best choice for large motion detection (e.g. walking)
- 360° conical shaped pattern
- Provides ~24 ft (7.32 m) radial coverage (~2000 ft²) when mounted at 9 ft (2.74 m)
- 7 to 15 ft (2.13 to 4.57 m) mounting heights provide 16 to 36 ft (4.88 to 10.97 m) radial coverage
- Detection range improves when walking across beams compared to into beams

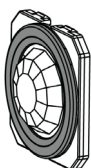
SIDE VIEW



TOP VIEW

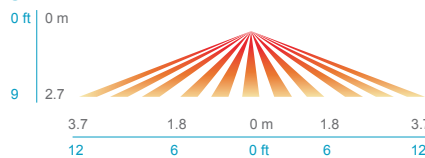


SMALL MOTION 360° LENS (#9)

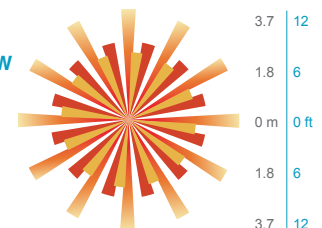


- Best choice for small motion (e.g. hand movements) detection
- 360° conical shaped pattern
- Provides 12 ft (3.66 m) radial coverage (~500 ft²) when mounted to standard 9 ft (2.74 m) ceiling
- 8 to 15 ft (2.44 to 4.57 m) mounting heights provide 10 to 20 ft (3.05 to 6.10 m) radial coverage
- Lens assembly is marked with a gray ring around lens to differentiate versus the #10 lens

SIDE VIEW

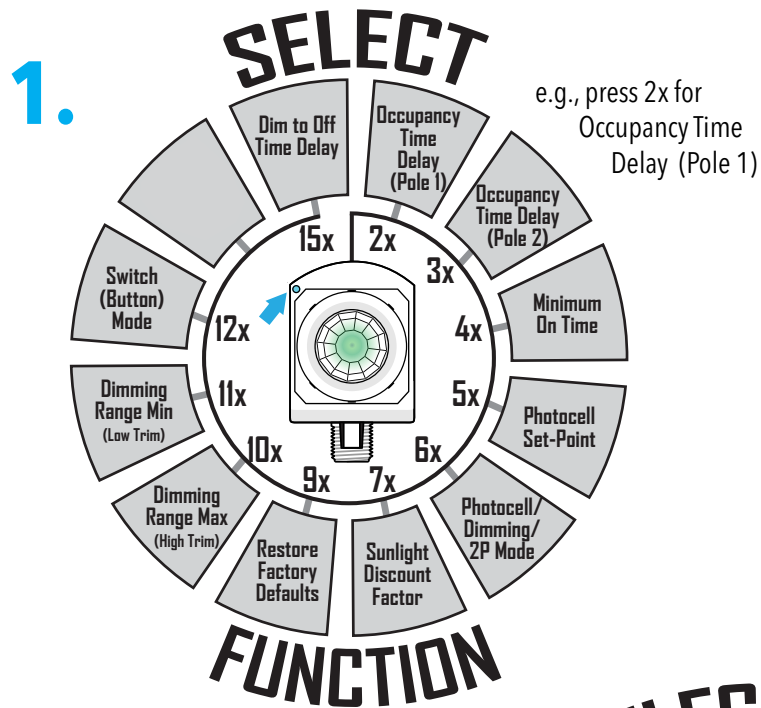


TOP VIEW

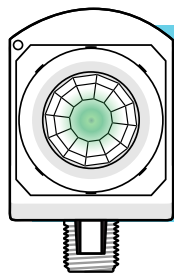


PROGRAMMING INSTRUCTIONS

Operational settings can be changed via the push-button sequence outlined below (note the example used is for changing pole 1 occupancy time delay).



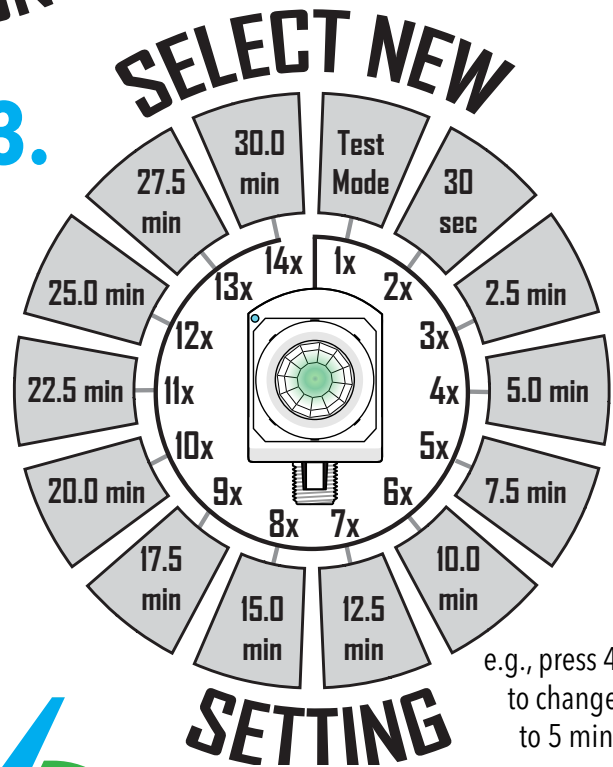
2.



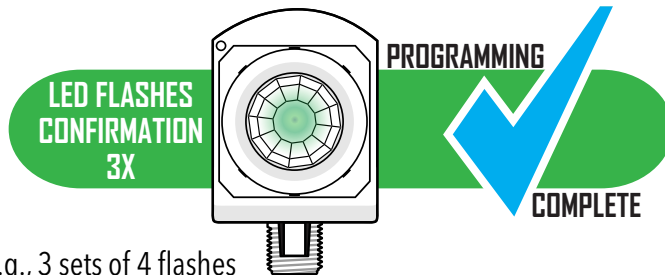
While LED flashes back
current setting 3x...
go to step 3

e.g., 6 flashes is default 10
minute time delay

3.



4.



e.g., 3 sets of 4 flashes
confirms 5 minute setting

OPERATIONAL SETTINGS

NOTE: (*) Indicates factory default (unless otherwise marked)

2 = Occupancy Time Delay (Pole 1)

The length of time the sensor will keep the lights controlled by relay 1 on and at full bright after it last detects occupancy, assuming Minimum On Time (function 4) has been met.

1	Test Mode**	6	10.0 min*	11	22.5 min
2	30 sec	7	12.5 min	12	25.0 min
3	2.5 min	8	15.0 min	13	27.5 min
4	5.0 min	9	17.5 min	14	30.0 min
5	7.5 min	10	20.0 min		

For additional time settings, contact technical support at 1.800.PASSIVE

* Standard default unless specified in model number

**Test mode disables Minimum On Time (Function 4), sets Occupancy Time Delay (Function 2 & 3) to 30 sec, and shortens photocell transition times and dimming rate. Mode will expire after 10 min or if Function 2 is set back to a time delay.

3 = Occupancy Time Delay (Pole 2)

The length of time the sensor will keep the lights controlled by relay 2 (if present) on after it last detects occupancy, assuming minimum on time (Function 4) has been met.

1	NA	6	10.0 min*	11	22.5 min
2	30 sec	7	12.5 min	12	25.0 min
3	2.5 min	8	15.0 min	13	27.5 min
4	5.0 min	9	17.5 min	14	30.0 min
5	7.5 min	10	20.0 min		

* Standard default unless specified in model number

4 = Minimum On Time (Lamp Maximizer)

The length of time required for lamps to be on in order to prevent short cycling that reduces fluorescent lamp life. If occupancy time delay expires prior to minimum on time being satisfied, the lamps will remain on until time has been met.

1	0 min**	3	30 min	5	60 min
2	15 min*	4	45 min		

* Standard default, reverts to 0 min if occ. time delay is changed from 10M

**Default for 5M, 15M, 20M, 30M option versions

5 = Photocell Set-Point

The target light level (at the sensor) that is to be maintained. Selecting Auto (Setting 1) will initiate on/off cycling procedure where sensor finds close-loop set-point. Not applicable to non-photocell versions.

1	Auto	4	2.0 fc	7	16.0 fc
2	0.5 fc	5	4.0 fc*	8	32.0 fc
3	1.0 fc	6	8.0 fc	9	64.0 fc

6 = Photocell / Dimming / 2-Pole Modes

Single Relay Units with P (Photocell) Option:

- 1 Disabled: Photocell does not affect lights.
- 2 Full On/Off Ctrl*: Provides increased energy savings by switching lights off during occupied periods with sufficient daylight contribution from windows or skylights. Lights will be switched back on if light level falls below set-point.
- 3 Inhibit Only Ctrl: Photocell will prevent lights from initially turning on if adequate daylight is available, but will not turn lights off.

Units with ADC or ANL (Dimming) Options:

- 1 Disabled: Photocell does not affect lights.
- 2 Automatic Dimming & Switching (-ADC): Enables the sensor during occupied periods to dim lights down and then turn them completely off by opening the relay.
- 3 Combination Dimming & Switching Photocell w/ High/Low Occ. Operation (-ANL): Provides maximum energy savings by dimming and/or switching off lighting during periods of sufficient daylight contribution from windows or skylights. During unoccupied periods without sufficient daylight lights are dropped to low dim setting, insuring minimum light levels are maintained at night.

Dual Relay (2P) Units - All Options:

- 1 Photocell (if present) is Disabled.
- 2 Single Zone (-SZ) Photocell Option:
Relay 1 controlled by photocell only, relay 2 controlled by occupancy only.
- 3 Dual Zone (-DZ) Photocell Option:
Relay 1 controlled according to set-point, relay 2 controlled at fixed % higher as specified in Dual Zone Photocell Offset % (Function 14).
- 4 Inhibit Only Ctrl: Photocell will prevent lights from initially turning on if adequate daylight is available, but will not turn lights off. Photocell controls both relays according to set-point.
- 5 Alternating Off Relays (-AO): Both relays close during periods of occupancy, but only one opens during periods of vacancy. The relay left closed is alternated in order to promote even lamp wear.
- 6 Alternating Off Relays w/ Photocell (-AOP): Both relays close during periods of occupancy, but only one opens during periods of vacancy or high daylight. The relay left closed is alternated in order to promote even lamp wear.

7 = Sunlight Discount Factor

Value used to improve the tracking accuracy of a sensor with a photocell during periods of high daylight. Decreasing the value will lower the controlled level of the lights.

1	x/1*	4	x/4	7	x/7	10	x/10
2	x/2	5	x/5	8	x/8		
3	x/3	6	x/6	9	x/9		

9 = Restore Factory Defaults

Returns all functions to original settings.

- 1 Maintain Current*
- 2 Restore Defaults

10 = Dimming Range Max (High Trim)

The maximum output level of a sensor with dimming. Default is "10 VDC" unless indicated in model number.

1	Off	4	3 VDC	7	6 VDC	10	9 VDC
2	1 VDC	5	4 VDC	8	7 VDC	11	10 VDC*
3	2 VDC	6	5 VDC	9	8 VDC		

11 = Dimming Range Min (Low Trim)

For sensors with -ADC or -ANL option, this setting is the minimum output level to which the photocell will dim the lights. For lights to turn off from daylight, setting 1 must be selected.

Also, for all sensors with dimming, this setting is the dim level the lights will drop to when the Occupancy Time Delay (Function 2) expires. Note if the relay is wired, lights will still turn completely off after the Dim to Off Occupancy Time Delay (Function 15) expires.

1	Off*	4	3 VDC	7	6 VDC	10	9 VDC
2	1 VDC**	5	4 VDC	8	7 VDC	11	10 VDC
3	2 VDC	6	5 VDC	9	8 VDC		

*Indicates default unless otherwise specified in model number

**Indicates default for -HL option unless otherwise specified in model number

12 = Switch (Button) Mode

When enabled, mode allows user to switch the relay by pressing the push button for test purposes (e.g., in order to test wiring). Note there is a short delay after pushing the button before the relay switches.

- 1 Disabled*
- 2 Enabled

15 = Dim to Off Occupancy Time Delay

After the Occupancy Time Delay (Function 2) has expired, this setting specifies the amount of time lights are held at minimum dim (Function 11) before turning off. Setting is only applicable for sensors with -HL and -ADC dimming options.

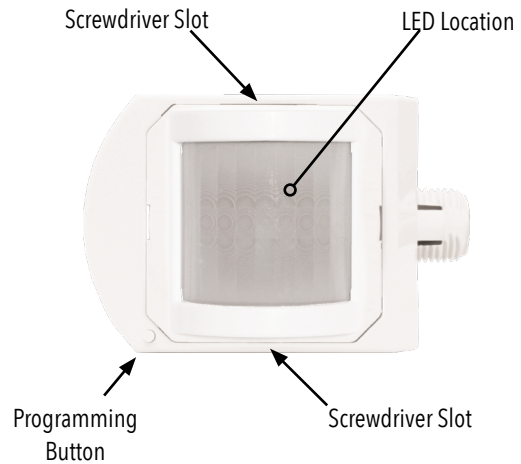
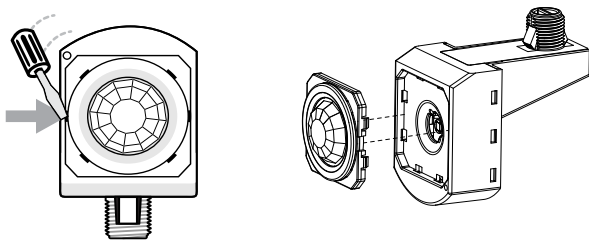
1	0 sec*	5	7.5 min	9	17.5 min
2	30 sec	6	10.0 min	10	20.0 min
3	2.5 min**	7	12.5 min	11	Stays at dim (never off)
4	5.0 min	8	15.0 min		

**HL default

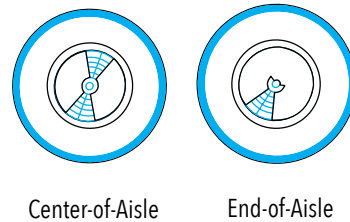
INSTALLATION

- To mount, push the unit's threaded chase nipple through a 1/2" knockout (7/8" hole) in a fixture.
- A snap lock mechanism on the chase nipple will secure the sensor.
- To interchange lenses, pry out installed lens using a small flat screw driver inserted into one of the slots shown below
- Apply light pressure on lens frame sides to snap in new lens.
- Install lens with the most optimum coverage pattern for a particular space and application
- Masking labels are included with the high bay 360° lens to mask off a portion of its coverage pattern for end-of-aisle, or to trim the side viewing to create a rectangular pattern for center-of-aisle.
- Masking labels are included with the high bay aisle way lens to mask off a portion of its coverage pattern for end-of-aisle applications.

REMOVING LENS



HIGH MOUNT 360° MASKING KIT



HIGH MOUNT AISLEWAY MASKING KIT

