

## BRD-310S

### Low Voltage SmartDIM Occupancy Sensor



#### OVERVIEW

The BRD-310S is a low-profile, fixture integrated low voltage occupancy sensor designed to work with 0-10V driver featuring AUX control power output. This 2-way, remote-programmable sensor is capable of providing four different occupancy sensing control schemes with fully adjustable multi-level high/low StepDIM or **SmartDIM** control to the integrated fixture. SmartDIM is an automatic dimming control technology developed by IR-TEC which enables the sensor to maintain the overall ambient light level within the preset range through a smooth, flawless continuous dimming control.

The BRD-310S can be directly powered by the AUX of associated driver, and provides 0-10V to control the lighting output as programmed by detecting the presence of an occupant/vehicle and ambient light level. The sensor will automatically dim the light down to the low level or dim-to-off after the area is vacated for a period of time. Multiple lens options with different detection patterns allow the sensor to be integrated with general commercial or industrial high bay lighting. The sensor can be operating even in the coldest of environments down to -40°C/°F. A two-way IR handheld remote programmer (SRP-280) allows you to easily configure the sensor control schemes and settings, or download the existing settings of the sensor from the floor. Four EZ-SET profiles can be stored in the SRP-280 for quick setup and parameter adjustment of multiple sensors.

#### FEATURES

- Omni-directional pyroelectric infrared sensor
- Digital data control ambient light sensor built-in
- 2-way IR remote programmable sensor setting
- 0-10V analog output for dimming control
- Digital output available for power pack control
- Multiple occupancy sensing control schemes
- SmartDIM or multi-level high/low dim control
- Remote programmable SmartDIM level setting
- Remote programmable range up to 50 ft high
- Beeping or light flashing acknowledgement
- Available with interchangeable lens options

#### APPLICATION

- Occupancy Sensing Control with 0-10V Multi-level or Continuous Dimming**

The BRD-310S can be integrated with an OEM lighting fixture to provide multiple occupancy sensing control schemes with multi-level or continuous dimming by sensing the presence and movements of occupant and local ambient light level.

#### APPLICABLE REMOTE (order separately)

Model	Description	Remarks
SRP-280	TRANS Remote Programmer	Full functionality
URP-100	User Remote	Manual ON/OFF/DIM TIME/LUX setting

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### Low Voltage SmartDIM Occupancy Sensor

#### SmartDIM

SmartDIM is an exclusive continuous dimming control algorithm developed by IR-TEC to provide smooth and flawless automatic dimming performance. The output of the controlled lighting will be constantly adjusted to maintain the overall ambient light level within the pre-programmed range by sensing the daylight available in the space.

#### CONTROL SCHEMES

The BRD-310S can be programmed by the SRP-280 to control the lighting in one of the following control schemes with various conditions as set. For more details about specific control scheme, please visit [www.irtec.com](http://www.irtec.com) or contact an IR-TEC team member directly.

Mode	Day <sup>1</sup>	Night <sup>2</sup>	Remarks
ON/OFF	Vac: OFF Occ: ON/OFF*	Vac: OFF Occ: ON	For non-dimmable lighting *ALS enabled
OSO	Vac: LD Occ: SD/HD	Vac: LD Occ: SD/HD	LD: Low Dim, HD: High Dim SD: SmartDIM
OSLA	Vac: OFF Occ: SD/OFF	Vac: LD Occ: SD/HD	
OSLATO	Vac: OFF Occ: SD/OFF	Vac: LD*-OFF Occ: SD/HD	*Low Dim during Time Off delay
OFF	Vac: OFF Occ: OFF	Vac: OFF Occ: OFF	Light stays off

**ON/OFF** : ON-OFF Switching

**OSO** : Occupancy Sensing Only

**OSLA** : Occupancy Sensing at Low Ambient

**OSLATO** : Occupancy Sensing at Low Ambient with Time-Off

**OFF** : Light OFF all the time

**Vac** : Vacant    **Occ** : Occupied

<sup>1</sup> While ambient light level is higher than the threshold.

<sup>2</sup> While ambient light level is lower than the threshold.

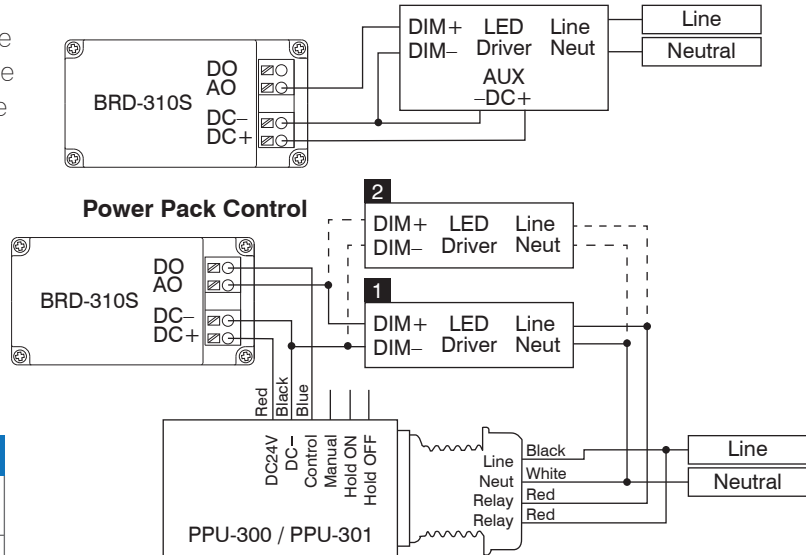
#### LENS OPTIONS

Following lenses are available for BRD-310S to provide different detection coverage for different mounting heights (H). For details of specific lens, please refer to the Lens Datasheet available from [www.irtec.com](http://www.irtec.com). Ensure to order an appropriate lens separately while ordering the sensor.

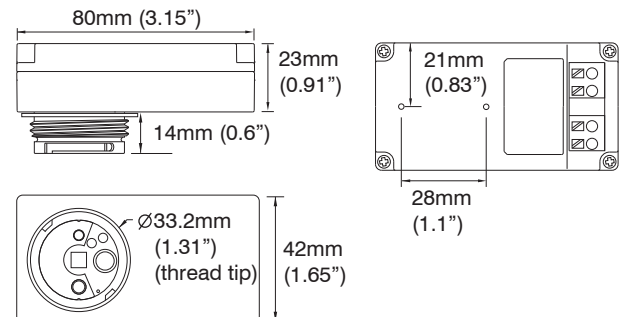
	Lens	Shape	Mounting Height		Coverage
<b>a</b>	Standard	Cone	8~15 ft.	2.4~4.5m	2X height
<b>b</b>	Extra wide	Cone	8~10 ft.	2.4~3.0m	6X height
<b>c</b>	High bay	Cone	15~30 ft.	4.5~9.0m	3X height
<b>d</b>	Standard	Round	8~20 ft.	2.4~6.0m	2X height
<b>f</b>	Extra wide	Dome	8~20 ft.	2.4~6.0m	4X height
<b>g</b>	Aisle way	Arch	8~40 ft.	2.4~12.0m	3X height
<b>h</b>	High bay	Dome	30~50 ft.	9.0~15.0m	1X height
<b>l</b>	Long aisle	Arch	8~10 ft.	2.4~3.0 m	6X height

#### WIRING DIAGRAM

With Dim-to-Off 0-10V Driver w/Aux Power



#### DIMENSIONS



#### SPECIFICATIONS

Power voltage	12-32VDC
Current drain	<15mA@32VDC, <25mA@12VDC
Infrared sensor	Omni-directional pyroelectric
Photo sensor	Digital ambient light sensor
Sensor output	Open collector, active low
Dim control	0-10V±5%, max 25 mA sinking current
Detectable speed	0.15 ~ 3 m/sec. (0.3~10 ft./sec.)
Mounting height	Subject to the lens type applied
Detection range	Subject to the lens applied and height
Remote range	10m (30 ft) indoor
Op. humidity	Max. 95% RH
Op. temperature	-40°C~55°C (-40°F~131°F)
Dimensions	80x42x37 mm (3.15"x1.65"x1.46")