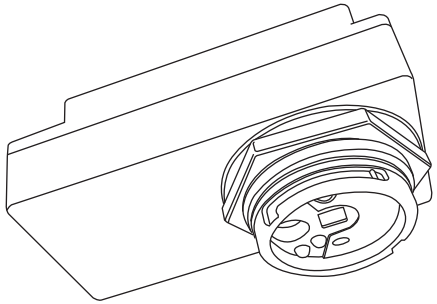
TRANS

REMOTE

BRD-310S

Low Voltage SmartDIM Occupancy Sensor

INSTALLATION INSTRUCTIONS



*This sensor requires lens. Please order seperately.
Refer to the Lens Datasheet for more details.

⚠ WARNING & CAUTION

- **Turn power OFF at circuit breaker before installing Power Pack or Sensors.**
- **Do NOT touch the square window of infrared sensor under the lens assembly.**
- **Do Not Install To and/or Cover a Junction Box Having Class 1, 3 or Power and Lighting Circuits.**
- **Class 2 Device Wiring Only – Do Not Reclassify and Install as Class 1, 3 or Power and Lighting Wiring.**
- **Suitable wiring range 16-20 AWG solid copper wire only.**

⚠ AVERTISSEMENT & PRUDENCE

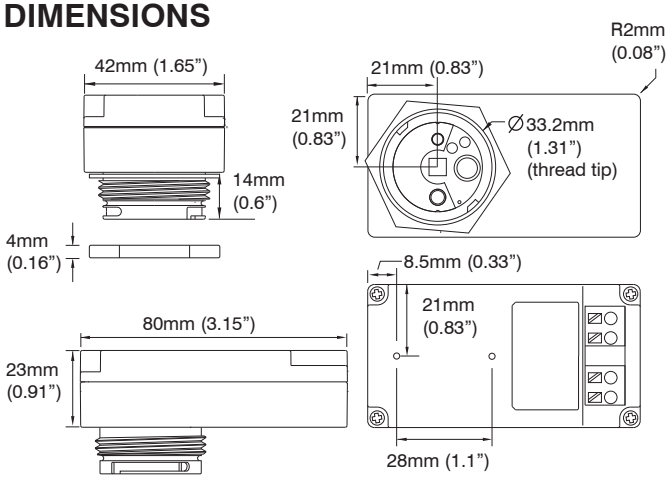
- **Coupez l'alimentation au disjoncteur avant d'installer Power Pack ou capteurs.**
- **Ne PAS toucher la fenêtre carrée de capteur infrarouge sous l'ensemble de l'objectif.**
- **Ne pas installer ou couvrir une boîte de jonction ayant les classes 1 et 3 ou circuits de puissance et d'éclairage.**
- **Classe 2 Câblage de périphériques Seulement - Ne PAS reclasser et installer Classe 1, 3 ou alimentation et circuits d'éclairage.**
- **Convient gamme de câblage 16-20 AWG en cuivre massif seulement.**

INTRODUCTION

The BRD-310S series 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 fixtures. **SmartDIM** is a state-of-the-art 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 to the connected lighting.

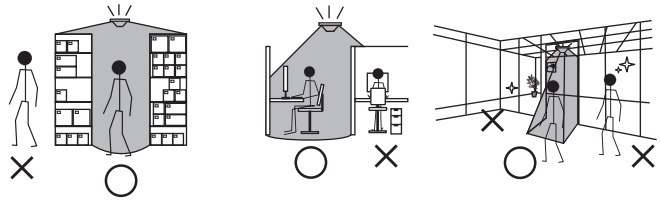
The BRD-310S can be directly powered by the AUX of associated driver, and provides 0-10V to control the lighting output as programmed by detecting the presence of an occupant/vehicle and ambient light level. The sensor will automatically dim the light down to the low level or dim-to-off after the area 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 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.

DIMENSIONS



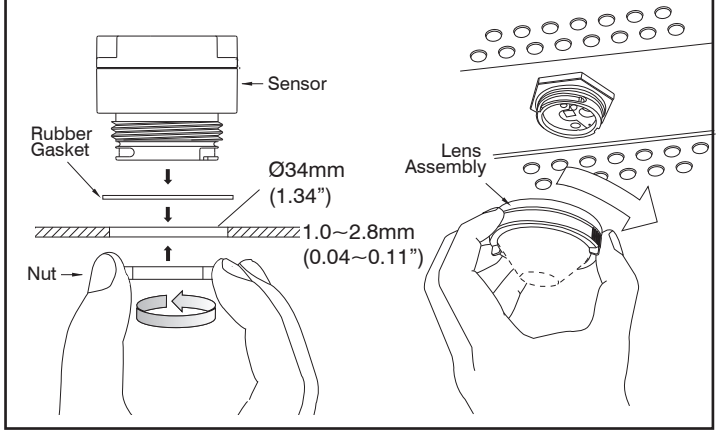
APPLICATION NOTES

1. The sensor is more sensitive to the movements "crossing" the detection zones than "toward" or "away" the sensor unit. To obtain better sensitivity, avoid placing the sensor in line with occupant path, if possible.
2. The closer the movement is to the sensor, the more sensitive the sensor is. The higher the sensor is installed, the larger movement is required for detection. The warmer the room is, the harder the sensor to detect the movement.
3. Ensure to place the sensor at least at 1.5m (5 ft.) away from air supply ducts as rapid air flow may cause false detections.
4. Avoid placing the sensor where obstructions may block the sensor's line of sight. PIR sensor cannot detect movements through glass.



MOUNTING

The sensor can be integrated with lighting fixture through a round hole with 34mm (1.34") diameter.



RoHS COMPLIANT

TITLE 20/24

www.irtec.com P/N: 058-31016-001 Printed in Taiwan

This product may be covered by one or more U.S. patents or patent applications.
Please visit www.irtec.com for more information.

iR-TEC

CONTROL MODE

The BRD-310S sensor can be programmed to control the lighting in one of the following modes via a SRP-280 remote programmer. For more details of specific control mode, please visit www.irtec.com or contact an IR-TEC team member directly.

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

Mode	Control
ON/OFF	1. While ambient lux is **higher** than the level set, light stays **OFF**. 2. While ambient lux is **lower** than the level set, and **occupancy detected**, switch the light to **HIGH DIM.** 3. Turn **OFF** the light after occupant leave and delay time elapses.
OSO	1. Ambient light sensor disabled. 2. Dim the light to **LOW DIM** at **all time** under vacancy. 3. Switch the light to **HIGH DIM** under occupancy. 4. Dim the light to **LOW DIM** after occupant leave and delay time elapses.
OSLA	1. While ambient lux is **higher** than the level set, light stays **OFF**. 2. While ambient lux is **lower** than the level set, dim the light to **LOW DIM** under vacancy. 3. While ambient lux is **lower** than the level set, and **occupancy detected**, switch the light to **HIGH DIM** 4. Dim the light to **LOW DIM** after occupant leave and delay time elapses.
OSLATO	1. While ambient lux is **higher** than the level set, light stays **OFF**. 2. While ambient lux is **lower** than the level set, and **occupancy detected**, switch the light to **HIGH DIM**. 3. Dim the light to **LOW DIM** after occupant leave and delay time elapses. 4. Turn **OFF** the lights when **TIME OFF** delay elapses. 5. When **occupancy detected** during **TIME OFF**, switch the light to **HIGH DIM**.
OFF	1. All lighting controlled by the sensor will remain **OFF** until another mode is selected.

SENSOR ACKNOWLEDGMENT

Acknowledgement	Sensor LED	Beep	Lighting
Full sensor setting upload completed	-	Long x 1 Short x 2	Flash x 2
Sensor resume to factory default	-	-	Flash x 2
SmartDIM level set completed	-	Short x 2	Flash x 2
Single setting ok	-	Short x 2	-
Occupancy detected	Flash x 1	-	-

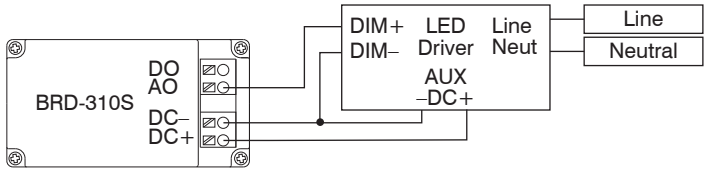
SENSOR SETTINGS

The followings are settings and options available with BRD-310S that can be configured via SRP-280 remote programmer. For more details of remote operation, please refer to the operation instruction of SRP-280.

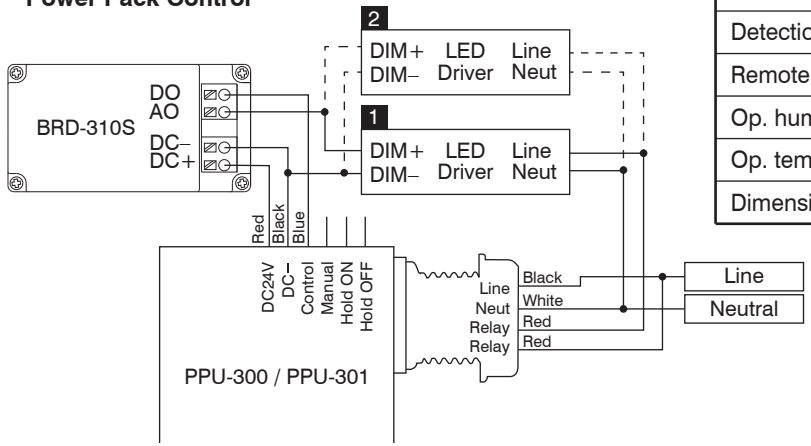
Settings	Description	Options	Default
CONTROL	The mode that the sensor will control.	ON/OFF, OSO, OSLA, OSLATO, OFF	OSLATO
AMBIENT LUX	The ambient light level that sensor will perform the control.	10/20/40/60/100/200/400 LUX/DISABLED	DISABLED
DELAY	The delay time that sensor is set to turn off or dim the light after the area is vacant.	30 sec./1/3/5/10/15/20/30/60 min.	10 min.
TIME OFF	The delay time that sensor will keep the light at low dim level after the OFF delay time elapsed.	10/30 sec./3/5/10/15/20/30/45/60 min.	10 min.
HIGH DIM	The output level set to control the light during occupancy.	50/55/60/65/70/80/90/100%/SmartDIM	100%
LOW DIM/ SmartDIM	The output level set to dim the light when space is vacant for bi-level control. Low dim setting will become SmartDIM bar if SmartDIM control is selected.	0/5/10/15/20/25/30/40%	30%
RAMP UP	The speed of increasing the lighting output to HIGH DIM level.	INSTANT/SOFT/SLOW	INSTANT
FADE DOWN	The speed of decreasing the lighting output to LOW DIM level or off.	INSTANT/SOFT/SLOW	SOFT
SENSITIVITY	The sensitivity of occupancy sensor.	HIGH/NORMAL/LOW	HIGH
LED INDICATOR	Enable/disable the LED indicator of sensor.	ENABLED/DISABLED	ENABLED

WIRING DIAGRAM

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



Power Pack Control



SPECIFICATIONS

Power voltage	12-32VDC
Current drain	<15mA@32VDC, <25mA@12VDC
Infrared sensor	Omni-directional quad element 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	0.3~10 ft./sec. (0.15 ~ 3 m/sec.)
Mounting height	Subject to the lens type applied
Detection range	Subject to the lens applied and height
Remote range	30 ft (10m) indoor
Op. humidity	Max. 95% RH
Op. temperature	-40°F~131°F (-40°C~55°C)
Dimensions	3.15"x1.65"x1.46"(80x42x37mm)

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