#### 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.

#### **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

#### **A 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.

#### **A** 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.



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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.

# 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



# **APPI ICATION 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

R2mm

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



### LENS OPTIONS

Different lenses can be applied to provide specific coverage at different mounting heights. Please refer to the lens datasheet attached for more details.



<b>CONTROL MODE</b> 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.			SENSOR The following more details Settings	SETTINGS gs are settings of remote ope		
ON/OFF : 0 OSO : 0 OSLA : 0 OSLATO : 0 OFF : 1	ON-OFF Switchin Occupancy Sensi Occupancy Sensi Occupancy Sensi Light OFF all the t	g ng Only ng at Low Aml ng at Low Aml ime	bient bient with <sup>-</sup>	Time-Off	CONTROL AMBIENT LUX DELAY TIME OFF	The mode tha The ambient li The delay time delay time ela
Mode		Control			HIGH DIM	The output lev
ON/OFF	<ol> <li>While ambient stays OFF.</li> <li>While ambient occupancy de</li> <li>Turn OFF the l time elapses.</li> </ol>	lux is <b>higher</b> tha lux is <b>lower</b> tha <b>etected</b> , switch t ight after occup	an the level n the level s he light to <b>F</b> ant leave an	set, light et, and <b>IIGH DIM.</b> Id delay	LOW DIM/ SmartDIM RAMP UP FADE DOWN LED INDICATOR SENSITIVITY	The output lev Low dim settin The speed of The speed of Renable/disabl The sensitivity
oso	<ol> <li>Ambient light s</li> <li>Dim the light to</li> <li>Switch the light to</li> <li>Dim the light to</li> </ol>	sensor disabled. <b>LOW DIM</b> at a at to <b>HIGH DIM</b> a <b>LOW DIM</b> after as as	Il time unde under occup r occupant l	er vacancy. bancy. eave and	MIN. DIM DAY O'RIDE O'RIDE LEVEL	The lowest dir Enable/disabl ambient lux ez LUX is enable The ambient I
OSLA	<ol> <li>While ambient lux is higher than the level set, light stays OFF.</li> <li>While ambient lux is lower than the level set, dim the light to LOW DIM under vacancy.</li> <li>While ambient lux is lower than the level set, and occupancy detected, switch the light to HIGH DIM</li> <li>Dim the light to LOW DIM after occupant leave and delay time elapses</li> </ol>			WIRING I With Dim-to-	DIAGRAM •Off 0-10V Dri	
OSLATO	<ol> <li>While ambient lux is higher than the level set, light stays OFF.</li> <li>While ambient lux is lower than the level set, and occupancy detected, switch the light to HIGH DIM.</li> <li>Dim the light to LOW DIM after occupant leave and delay time elapses.</li> <li>Turn OFF the lights when TIME OFF delay elapses.</li> <li>When occupancy detected during TIME OFF, switch the light to HIGH DIM.</li> </ol>				Control	
OFF 1. All lighting controlled by the sensor will remain OFF until another mode is selected.			BRD-310S			
SENSO	R ACKNOW	LEDGMEN	T		D D	
Acknowledgement Full sensor setting upload		Sensor LED	Beep Long x 1	Lighting Flash x 2	r	Red Black Blue
completed			Short x 2	Flash		DC- DC-
Sensor resume to factory default		-	- Charty C	Flash x 2		õ – õ
Single cotting	ok	-	Short x 2	Flash x 2		
	un atected	- Flash v 1	-	-		PPU-300 / PP
Occupancy detected			-	-		

#### 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.	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. Only available if OSLATO is selected.	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
LED INDICATOR	Enable/disable the LED indicator of sensor.	ENABLED/DISABLED	ENABLED
SENSITIVITY	The sensitivity of occupancy sensor.	HIGH/NORMAL/LOW	HIGH
MIN. DIM	The lowest dim level applicable on the sensor.	12%/15%/DISABLED	DISABLED
DAY O'RIDE	Enable/disable daylight override control. Sensor will shut off the light when ambient lux exceeds the override level set below. Only available if AMBIENT LUX is enabled.	ENABLED/DISABLED	DISABLED
O'RIDE LEVEL	The ambient lux level to enable daylight override. Only available if DAY O'RIDE is enabled.	HIGH(~1.8X)/NORMAL(~1.5X)/LOW(~1.3X)	NORMAL

### **SPECIFICATIONS**

Nith Dim-to-Off 0-10V Driver w/Aux Power		
With Dim-to-Off 0-10V Driver W/Aux Power		Curre
	DIM+ LED Line Line	Infrare
BRD-310S C	DIM- Driver Neut Neutral	Photo
		Senso
		Dim c
		Detec
Power Pack Control		
		Detec
	DIM LLD Line	Remo
BRD-310S		
	DC-	Op. te
		Dimer
		Line
	ੁੱੱੱ ਨੇ ਙੱੱਠ ਨੇ ਪਿੰਸ਼ ਦੇ ਪਿੰਸ ਦੇ ਪ	leutral
	PPU-300 / PPU-301	

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 $\pm$ 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)

