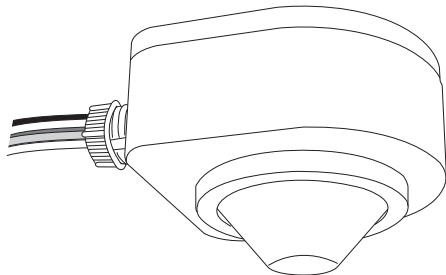


# TRANS

## HRD-600SP series

Line Voltage SmartDIM Occupancy Sensor

### INSTALLATION INSTRUCTIONS



w/Lens A/B/C



\*More lens options are available for this sensor.  
Please refer to the Lens Datasheet for more details.

#### ⚠ WARNING & CAUTION

- Risk of Electric Shock - Disconnect power supply before servicing.
- Do NOT touch the square window of infrared sensor under the lens assembly.
- Open Type Photoelectric Switches.

#### ⚠ AVERTISSEMENT & PRUDENCE

- Risque de choc électrique - Débranchez l'alimentation avant l'entretien.
- Ne PAS toucher la fenêtre carrée de capteur infrarouge sous l'ensemble de l'objectif.
- Ouvrir Type commutateurs optoélectroniques.

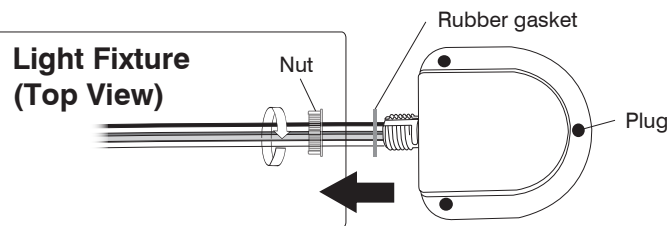
### OVERVIEW

The HRD-600SP series member of the TRANS family is a two-way IR remote programmable line voltage occupancy sensor with 0-10V output for 347/480VAC dimmable ballast or LED driver control. The sensor is capable of providing top-notch energy efficient lighting control in various modes with fully programmable multi-level high/low dim or SmartDIM control. SmartDIM is a state-of-the-art automatic dimming control technology developed by IR-TEC, which is capable of maintaining the overall ambient light level within the preset range through a smooth, flawless continuous dimming control to the connected lighting.

The sensor will turn on the connected lighting to the high dim or SmartDIM level as programmed when it detects the presence of an occupant or vehicle, and automatically dim the light down to the low level or shut off as programmed after the area is vacated for a period of time. An exclusive two-way handheld remote programmer (SRP-280) allows you to configure sensor setting, or download the existing settings of the installed sensor from the floor.

Like all PIR sensors of TRANS family, the HRD-600 series is also available with interchangeable lenses. The sensor can be externally mounted with a lighting fixture via a 1/2" knockout hole, and operate in the coldest of environments, down to -40°F/°C.

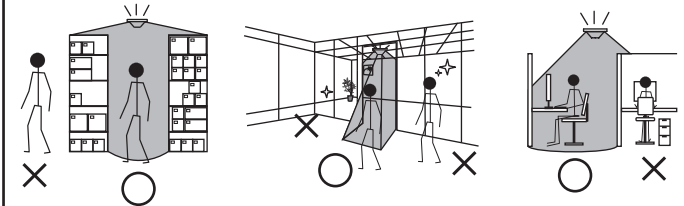
### SENSOR MOUNTING



**Note:** For IP-66 fixture integration, ensure the rubber gasket is placed in between the fixture enclosure and sensor unit.

### 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 to be detected.
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 activations.
4. The sensor cannot "see" the movements behind obstacles, such as furniture, shelf, glass or partition. As a general rule, each occupant should be able to clearly view the sensor unit.
5. For open office areas with partition which could block the sensor view to occupant movements, it is best to place the sensors over the intersection of multiple workstations. For large areas of open office or space, place multiple sensors so that there is overlap coverage with each adjacent sensor.



### Tested LED Driver/Electronic Ballast (for reference)

Manufacturer	Model no.	Rating
MEAN WELL	HVG-320-48B	480 VAC, 4.5 A
THOMAS	PLED96W-046-C2100-D-HV	480 VAC , 0.2 A
EVERLINE	D10CC150HV10F	480 VAC, 0.34 A
PHILIPS	XH150C070V210CNF1	480 VAC, 0.35 A

## CONTROL MODE

The HRD-600SP sensor can be programmed by SRP-280 remote programmer to control the lighting in one of the following modes. For more details of specific control mode, please visit [www.irtec.com](http://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

Mode	Control (HRD-600SP)
ON/OFF	<ol style="list-style-type: none"><li>While ambient lux is <b>higher</b> than the level set, light stays <b>OFF</b>.</li><li>While ambient lux is <b>lower</b> than the level set, and <b>occupancy detected</b>, switch the light <b>ON</b>.</li><li>Turn <b>OFF</b> the light after occupant leave and delay time elapses.</li></ol>
OSO	<ol style="list-style-type: none"><li>Ambient light sensor disabled.</li><li>Dim the light to <b>LOW DIM</b> at <b>all time</b> under vacancy.</li><li>Switch the light to <b>HIGH DIM</b> under occupancy.</li><li>Dim the light to <b>LOW DIM</b> after occupant leave and delay time elapses.</li></ol>
OSLA	<ol style="list-style-type: none"><li>While ambient lux is <b>higher</b> than the level set, light stays <b>OFF</b>.</li><li>While ambient lux is <b>lower</b> than the level set, dim the light to <b>LOW DIM</b> under vacancy.</li><li>While ambient lux is <b>lower</b> than the level set, and <b>occupancy detected</b>, switch the light to <b>HIGH DIM</b></li><li>Dim the light to <b>LOW DIM</b> after occupant leave and delay time elapses.</li></ol>
OSLATO	<ol style="list-style-type: none"><li>While ambient lux is <b>higher</b> than the level set, light stays <b>OFF</b>.</li><li>While ambient lux is <b>lower</b> than the level set, and <b>occupancy detected</b>, switch the light to <b>HIGH DIM</b>.</li><li>Dim the light to <b>LOW DIM</b> after occupant leave and delay time elapses.</li><li>Turn <b>OFF</b> the lights when <b>TIME OFF</b> delay elapses.</li><li>When <b>occupancy detected</b> during <b>TIME OFF</b>, switch the light to <b>HIGH DIM</b>.</li></ol>

## 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	-	-

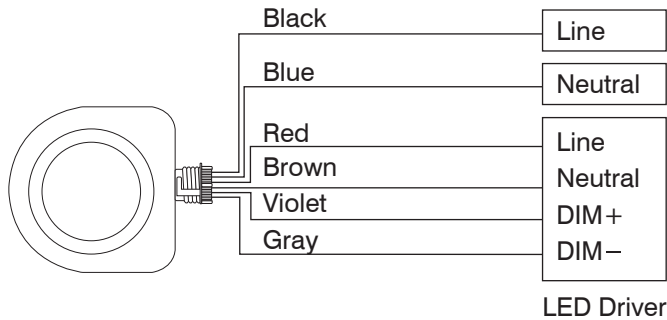
## SENSOR SETTINGS

The followings are settings and options available with HRD-600SP that can be configured through the operation of SRP-280 remote programmer. For more details of remote sensor setting, please refer to the operation instruction of SRP-280.

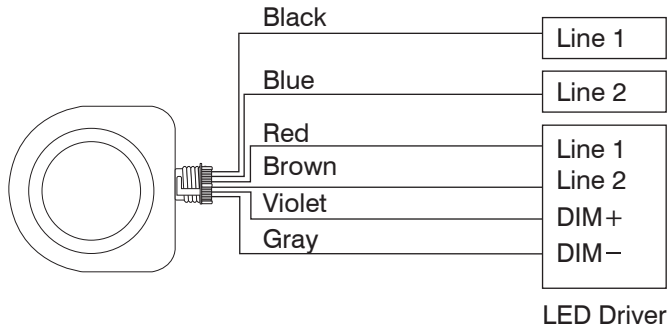
Settings	Description	Options (*Denotes factory default.)
<b>CONTROL</b>	The mode that the sensor will control.	ON/OFF, OSO, OSLA, <b>OSLATO*</b>
<b>AMBIENT LUX</b>	The ambient light level that sensor will perform the control.	10/20/40/60/100/200/400 LUX/ <b>DISABLED*</b>
<b>DELAY</b>	The delay time that sensor is set to turn off or dim the light after the area is vacant.	30 sec./1/3/5/ <b>10*</b> /15/20/30/60 min.
<b>TIME OFF</b>	The delay time that sensor will keep the light at low dim level after the OFF delay time elapsed.	10/30 sec./3/5/ <b>10*</b> /15/20/30/45/60 min.
<b>HIGH DIM</b>	The output level set to control the light during occupancy.	50/55/60/65/70/80/90/ <b>100%*</b> /SmartDIM
<b>LOW DIM/SmartDIM</b>	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/ <b>30*</b> /40%
<b>RAMP UP</b>	The speed of increasing the lighting output to HIGH DIM level.	<b>INSTANT*</b> /SOFT/SLOW
<b>FADE DOWN</b>	The speed of decreasing the lighting output to LOW DIM level or off.	INSTANT/ <b>SOFT*</b> /SLOW
<b>SENSITIVITY</b>	The sensitivity of occupancy sensor.	<b>HIGH*</b> /NORMAL/LOW

## Wiring Diagram

### A. Single Phase Line Power (347 VAC)



### B. 2-Phase Line Power (480 VAC)



## SPECIFICATIONS

Power voltage	347/480 VAC, 60Hz	
Maximum Load	347 VAC	480 VAC
-Ballast Electronic (LED)	1500 VA	2160 VA
Infrared sensor	Omni-directional quad element pyroelectric	
Photo sensor	Digital ambient light sensor	
Load switching	Zero-cross control relay	
Dim control output	0-10V, $\pm 5\%$ , max 25 mA sinking current	
Detectable speed	0.5~10 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	33 ft (10 m) indoor	
Op. humidity	Max. 95% RH	
Op. temperature	-40°F~122°F (-40°C~50°C)	
Dimensions	H4.37" x W3.54" x D1.8" (H111 x W90 x D46mm)	