

HRD-600SP series

Line Voltage SmartDIM Occupancy Sensor



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-600SP 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°C/°F.

FEATURES

- Omni-directional quad element infrared sensor
- Digital data control ambient light sensor built-in
- 2-way IR remote programmable sensor setting
- SmartDIM or multi-level high/low dim control
- Remote programmable SmartDIM level setting
- Up to 10 m of remote programmable range
- Beeping or light flashing acknowledgement
- Available with interchangeable lens options

APPLICATION

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

The HRD-600SP sensor can be used to provide occupancy sensing based, multi-mode, continuous dimming control by sensing the presence and movements of the occupant and the daylight available in the space. Specific control mode and sensor setting can be configured via the SRP-280 remote sensor programmer (optional). Basic wiring diagram is included at next page for reference. Consult with an IR-TEC team member if a more complex control is required.

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SmartDIM

SmartDIM is an exclusive continuous dimming control algorithm developed by IR-TEC to provide a 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 MODES

The HRD-600SP series can be programmed by SRP-280 to control the lighting in one of the following modes with various conditions as set. For more details of specific control mode, please visit www.irtec.com or contact an IR-TEC team member directly.

Mode	Day ¹	Night ²	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

ON/OFF : ON-OFF Switching

OSO : Occupancy Sensing Only

OSLA : Occupancy Sensing at Low Ambient

OSLATO : Occupancy Sensing at Low Ambient with Time-Off

Vac : Vacant Occ : Occupied

¹ While ambient light level is higher than the threshold.

² While ambient light level is lower than the threshold.

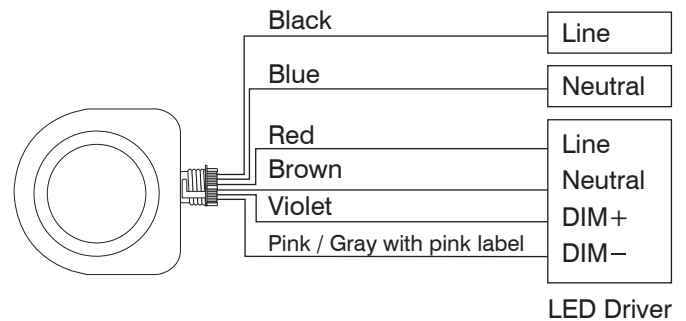
LENS OPTIONS

The HRD-600SPX series is available with following lens options which provide different coverage at different mounting height (H). When adding the lens code, the lens is then automatically shipped with the sensor.

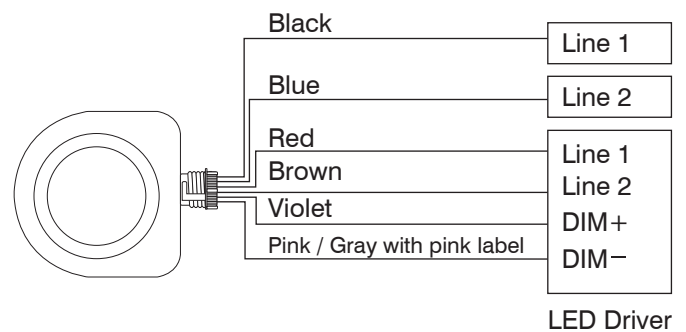
Lens	Shape	Mounting Height	Coverage
A	Standard	Cone	8~15 ft. 2.4~4.5m 2X height
B	Extra wide	Cone	8~10 ft. 2.4~3.0m 6X height
C	High bay	Cone	15~30 ft. 4.5~9.0m 3X height
D	Standard	Round	8~20 ft. 2.4~6.0m 2X height
F	Extra wide	Dome	8~20 ft. 2.4~6.0m 4X height
G	Aisle way	Arch	8~40 ft. 2.4~12.0m 3X height
H	High bay	Dome	30~50 ft. 9.0~15.0m 1X height
L	Long aisle	Arch	8~10 ft. 2.4~3.0 m 6X height

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 -Ballast Electronic (LED)	347 VAC	480 VAC
	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	0.15 ~ 3 m/sec. (0.5~10 ft./sec.)	
Mounting height	Subject to the lens type applied.	
Detection range	Subject to the lens applied and height	
Remote range	10 m (33 ft) indoor	
Op. humidity	Max. 95% RH	
Op. temperature	-40°C~50°C (-40°F~122°F)	
Dimensions	H111 x W90 x D46mm (H4.37" x W3.54" x D1.8")	