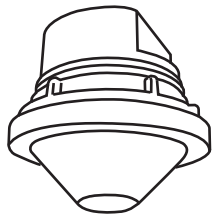


TRANS

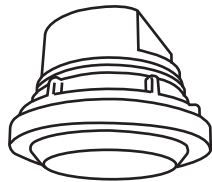
BOA-516 series

Low Voltage Bi-Level Occupancy Sensor

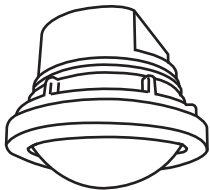
INSTALLATION INSTRUCTIONS



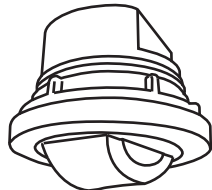
w/Lens A/B/C



w/Lens D



w/Lens F



w/Lens G

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

OVERVIEW

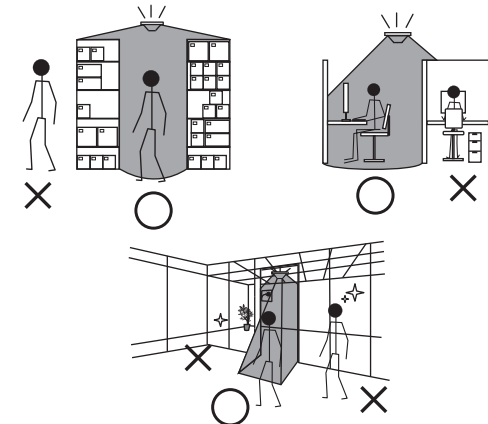
The BOA-516 series member of the TRANS family is a low voltage passive infrared occupancy sensor designed to provide 0-10V analog output for occupancy based, multimode bi-level LED lighting control. Depending on the selected mode, this sensor will provide various control voltages for dimmable driver according to the occupancy status and ambient light level change.

This PIR occupancy sensor employs a cutting edge quad element pyroelectric infrared sensor to provide omni-directional sensing capability of occupant's presence and motions. An advanced digital ambient light sensor is integrated to provide smart day-night judgment for bi-level or daylight harvesting control. The sensor offers 8 different control modes via rotary DIP switch selection.

Same as all sensors in the TRANS family, the BOA-516 series is available with various mounting options and interchangeable lenses. This feature provides a second-to-none design and installation flexibility. The sensor is designed to operate in the coldest of environments, down to $-40^{\circ}\text{C}/^{\circ}\text{F}$.

INSTALLATION 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.



⚠ WARNING & CAUTION

- Do NOT touch the square window of infrared sensor under the lens assembly.
- Suitable wiring range 16-20 AWG solid copper wire only.
- Open Type Photoelectric Switches.

⚠ AVERTISSEMENT & PRUDENCE

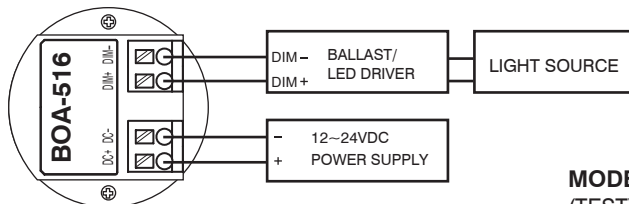
- Ne PAS toucher la fenêtre carrée de capteur infrarouge sous l'ensemble de l'objectif.
- Convient gamme de câblage 16-20 AWG en cuivre massif seulement.
- Ouvrir Type commutateurs optoélectroniques.



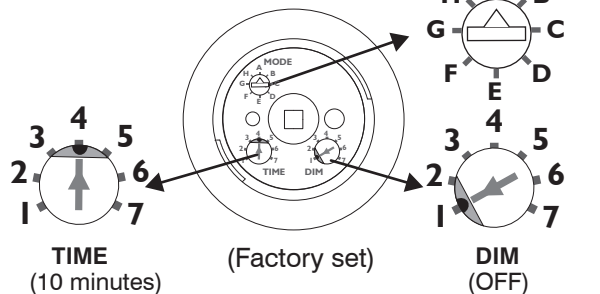
www.irtec.com P/N: 058-51603-006 Printed in Taiwan
This product may be covered by one or more U.S. patents or patent applications.
Please visit www.irtec.com for more information.



WIRING DIAGRAM



SENSOR SETTINGS



POS.	1	2	3	4	5	6	7
TIME	1'	3'	5'	10'	15'	20'	30'
DIM	OFF	1.5V	2V	2.5V	3V	4V	5V

Factory Set

Delay Time

The BOA-516 series offers 7 different delay time settings via Accu-Set potentiometer. The light will remain ON if sensor detects occupant's movement before the set delay time expires. The Accu-Set potentiometer will provide accurate delay time as the arrowhead pointed.

Dim Level

The BOA-516 series offers 7 different dim level settings via Accu-Set potentiometer. The LED light will be dimmed as the level set when condition of selected control mode applies. The Accu-Set potentiometer will provide accurate dim level as the arrowhead pointed.

TESTING

1. Set the control mode switch pointing to position "A".
2. Walk within the desired range* at normal speed. Light should be switched ON for 5 seconds and dim for 10 seconds whenever sensor detects the movement.
3. The LED indicator behind lens assembly will blink to indicate sensor detection as well.

* Depending on the lens type ordered and mounting height, the sensor could have different sensing coverage as instructed on the LENS DATASHEET attached.

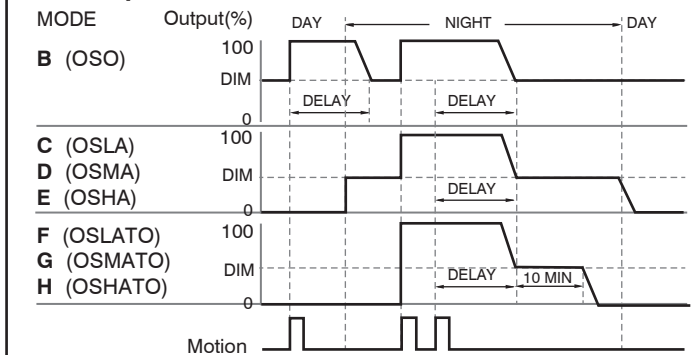
Control Mode

The BOA-516 series features 8 different control modes selectable via rotary DIP switch. Please refer to the following description and select the desired control mode.

NOTE: Ensure to set the DIP switch at "click" position while setting the control mode.

Mode	Sensor Control Description
A	<ol style="list-style-type: none"> 1. Turn on the light for 5 seconds at every motion detected. 2. Dim the light for 10 seconds and then turn off.
B	<ol style="list-style-type: none"> 1. Ambient light sensor is disabled with this mode. 2. Dim the light to low level as DIM set all time under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy.
C	<ol style="list-style-type: none"> 1. Light off while ambient light is higher than 50 lux. 2. While ambient light is lower than 20 lux, dim the light to low level as DIM set under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy.
D	<ol style="list-style-type: none"> 1. Light off while ambient light is higher than 130 lux. 2. While ambient light is lower than 80 lux, dim the light to low level as DIM set under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy.
E	<ol style="list-style-type: none"> 1. Light off while ambient light is higher than 600 lux. 2. While ambient light is lower than 500 lux, dim the light to low level as DIM set under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy.
F	<ol style="list-style-type: none"> 1. Light off while ambient light is higher than 50 lux. 2. While ambient light is lower than 20 lux, light stays off under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy. When delay time elapse, dim the light to low level as DIM set for 10 minutes as Time Off delay. 4. Turn the light to full-ON per delay TIME set if sensor detects occupancy during Time Off. Turn the light off if no occupancy detected during Time Off delay.
G	<ol style="list-style-type: none"> 1. Light off while ambient light is higher than 130 lux. 2. While ambient light is lower than 80 lux, light stays off under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy. When delay time elapse, dim the light to low level as DIM set for 10 minutes as Time Off delay. 4. Turn the light to full-ON per delay TIME set if sensor detects occupancy during Time Off. Turn the light off if no occupancy detected during Time Off delay.
H	<ol style="list-style-type: none"> 1. Light off while ambient light is higher than 600 lux. 2. While ambient light is lower than 500 lux, light stays off under vacancy. 3. Turn the light to full-ON per delay TIME set under occupancy. When delay time elapse, dim the light to low level as DIM set for 10 minutes as Time Off delay. 4. Turn the light to full-ON per delay TIME set if sensor detects occupancy during Time Off. Turn the light off if no occupancy detected during Time Off delay.

Mode Operation Chart



SPECIFICATIONS

Power supply	12~24VDC
Current Drain	8mA @ 24VDC, load OFF
Infrared sensor	Omni-directional quad element pyroelectric
Sensor output	0-10V analog
Detectable speed	0.15~3m/sec. (0.5~10 ft./sec.)
Mounting height	Subject to the lens type applied
Detection range	Subject to the lens applied and height
Ambient light level	L:20~50 lux, M:80~130 lux, H:500~600 lux
Low dim level	0/1.5/2/2.5/3/4/5V selectable
Delay time setting	1'/3'/5'/10'/15'/20'/30' selectable
Time-off delay	10 min., TO modes only
Op. humidity	Max. 95% RH
Op. temperature	-40°C~55°C (-40°F~131°F)
Dimensions	Ø60 x H37mm (Ø2.36" x H1.45")

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