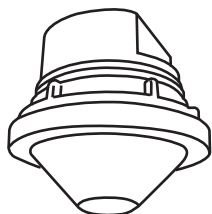


# TRANS

## COS-516 series

Bi-Level LED Control Occupancy Sensor

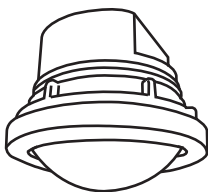
### INSTALLATION INSTRUCTIONS



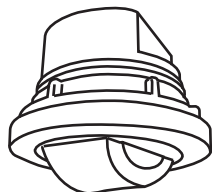
w/Lens A/B/C



w/Lens D



w/Lens F



w/Lens G

### ⚠ WARNING & CAUTION

- Do NOT touch the square window of infrared sensor under the lens assembly.
- Use AWG 16-20 solid conductor wires  
Strip length 8-9 mm / 0.31-0.35 in
- Risk of Electric Shock -  
Disconnect power supply before servicing.
- Open Type Photoelectric Switches

### OVERVIEW

The COS-516 series member of the TRANS family is an innovative occupancy sensor specially designed for bi-level control of LED luminaries powered by Constant Voltage (CV) driver.

This occupancy sensor employs a cutting edge quad element pyroelectric infrared sensor to provide omni-directional sensing capability of the occupants presence and movements. This sensor will provide full power output for LED module when it detects presence of an occupant, or vehicle, and switch back to the low dim level after the area is vacated for a period of time. The Accu-Set digital potentiometer makes the sensor setting work easier, faster and more accurate than conventional analog potentiometers.

The COS-516 series offers 8 different control modes set via a rotary DIP switch. Additionally the sensor has 7 delay times and low dim levels both pre-settable via Accu-Set digital potentiometers. The COS-516 is designed to provide complete occupancy sensing for automatic LED lighting control, ease of use, and the simplest installation.

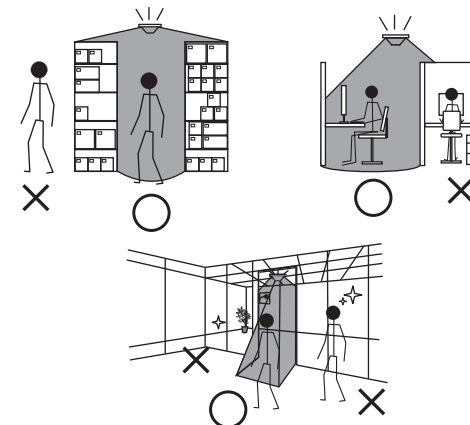
Like all sensors in the TRANS family, the COS-516 series is available with various mounting options and interchangeable lenses. This provides a second-to-none design and complete installation flexibility. The sensor is designed to operate in the coldest of environments, down to -40°C/°F.

### ⚠ AVERTISSEMENT & PRUDENCE

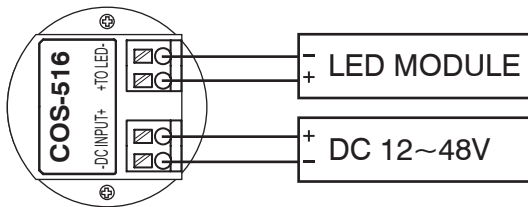
- Ne PAS toucher la fenêtre carrée de capteur infrarouge sous l'ensemble de l'objectif.
- Utilisez AWG 16-20 fils conducteurs solides  
Longueur de la bande de 8-9 mm / de 0,31 à 0,35 en
- Risque de choc électrique -  
Débranchez l'alimentation avant l'entretien.
- Ouvrir Type commutateurs optoélectroniques

### INSTALLATION NOTES

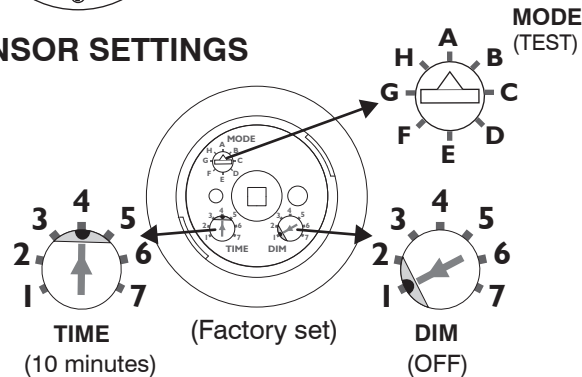
1. The sensor is more sensitive to the movement “crossing” the detection zones than “toward” or “away” the sensor. To obtain better sensitivity, avoid placing the sensor in line with occupant path, if possible.
2. The closer the movement is to the sensor, the more sensitive the sensor is. The higher 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 partitions. 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.



## WIRING DIAGRAM



## SENSOR SETTINGS



POS.	1	2	3	4	5	6	7
TIME	1'	3'	5'	10'	15'	20'	30'
DIM	OFF	5%	10%	20%	25%	33%	50%

Factory Set

### Delay Time

The COS-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 COS-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

- Set the control mode switch pointing to position "A".
- 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.
- 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.

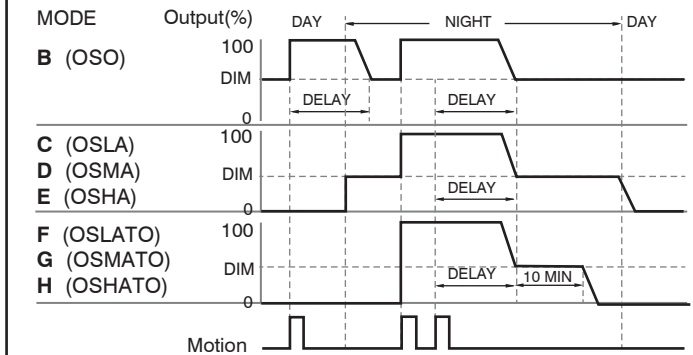
## Control Mode

The COS-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
<b>A</b>	<ol style="list-style-type: none"> <li>Turn on the light for 5 seconds at every motion detected.</li> <li>Dim the light for 10 seconds and then turn off.</li> </ol>
<b>B</b>	<ol style="list-style-type: none"> <li>Ambient light sensor is disabled with this mode.</li> <li>Dim the light to low level as DIM set all time under vacancy.</li> <li>Turn the light to full-ON per delay TIME set under occupancy.</li> </ol>
<b>C</b>	<ol style="list-style-type: none"> <li>Light off while ambient light is higher than 50 lux.</li> <li>While ambient light is lower than 20 lux, dim the light to low level as DIM set under vacancy.</li> <li>Turn the light to full-ON per delay TIME set under occupancy.</li> </ol>
<b>D</b>	<ol style="list-style-type: none"> <li>Light off while ambient light is higher than 130 lux.</li> <li>While ambient light is lower than 80 lux, dim the light to low level as DIM set under vacancy.</li> <li>Turn the light to full-ON per delay TIME set under occupancy.</li> </ol>
<b>E</b>	<ol style="list-style-type: none"> <li>Light off while ambient light is higher than 600 lux.</li> <li>While ambient light is lower than 500 lux, dim the light to low level as DIM set under vacancy.</li> <li>Turn the light to full-ON per delay TIME set under occupancy.</li> </ol>
<b>F</b>	<ol style="list-style-type: none"> <li>Light off while ambient light is higher than 50 lux.</li> <li>While ambient light is lower than 20 lux, light stays off under vacancy.</li> <li>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.</li> <li>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.</li> </ol>
<b>G</b>	<ol style="list-style-type: none"> <li>Light off while ambient light is higher than 130 lux.</li> <li>While ambient light is lower than 80 lux, light stays off under vacancy.</li> <li>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.</li> <li>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.</li> </ol>
<b>H</b>	<ol style="list-style-type: none"> <li>Light off while ambient light is higher than 600 lux.</li> <li>While ambient light is lower than 500 lux, light stays off under vacancy.</li> <li>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.</li> <li>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.</li> </ol>

## Mode Operation Chart



## SPECIFICATIONS

Power supply	12~48VDC
Current drain	<2.5mA @ 48VDC, LED OFF
Infrared sensor	Omni-directional quad element pyroelectric
Maximum load	3A @ 12~48VDC
Output control	1KHz pulse width modulation
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	0/5/10/20/25/33/50% 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")

IR-TEC International Ltd. warranties this product to be free of defects in materials or workmanship for a period of five years from date of shipment. There are no obligations or liabilities on the part of IR-TEC International Ltd. for consequential damages arising out or in connection with the use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation or reinstallation.

www.irtec.com

**IR-TEC**