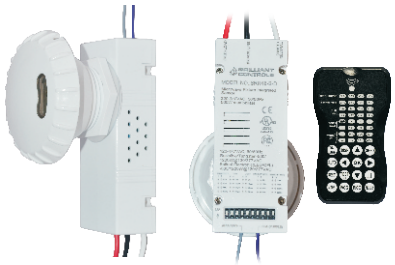
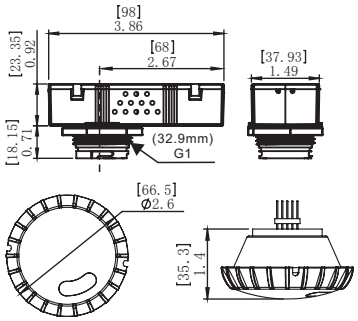
# ■ Bi-level Microwave Sensor For High Bay Light






## INTRODUCTION

The WEC-3MDR-42 is a motion sensor that dims lighting from high to low based on movement. This slim, low-profile sensor is designed for installation inside the bottom of a light fixture body. The sensor plus moduleconnects to the BRI816-B-D sensor socket through a 1.30" diameter hole in the bottom of the fixture.The sensors use microwave sensing technology that reacts to changes in movement within the coverage area. Once the sensor stops detecting movement and the time delay elapses lights will go from high to low mode and eventually to an OFF position if it is desired. Sensors must directly "see" motion of a person or moving object to detect them, so careful consideration must be given to sensor luminaire placement and lens selection. Avoid placing the sensor where obstructions may block the sensor's line of sight.

## SPECIFICATIONS

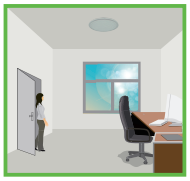
| | |
|---|---|
| Power supply | 120/277VAC 50/60Hz |
| Maximum load<br>@ -40°F ~ +158°F<br>(-40°C ~ +70°C) | Resistive/Halogen - 800W/1200W@120/277V<br>Fluorescent Ballast - 660W/1200W@120/277V<br>Electronic Ballast (LED/CFL) - 5A/5A@120/277V |
| HF System | 5.8GHz CW |
| Dim control output | 0-10V, max. 25mA sinking current |
| Detection radius/angle | Max 30ft.(8meters)/360° |
| Mounting height | Max 50ft.(15meters) |
| Time setting | 10sec.-15min. (adjustable) |
| Light-control | 10-2000Lux (adjustable) |
| Humidity | Max. 95% RH |
| Temperature | -40°F ~ +158°F (-40°C ~ +70°C) |

## Function and options

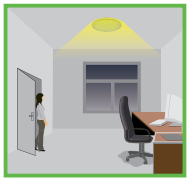
### 1.Bi-Level control

The PIR sensor to achieve tri-level dimming control, for same areas that require a light change notice before switch off.

If offers 3 levels of the light Control : 100%--dimming light (0,10%,30%,50%)--off;and 2 periods of selectable waiting time: motion hold-time and stand-by time. Selectable daylight threshold and choice of detection area.



With suffcient natural light, the light does not switch on when presence detected.



With insufficient natural light, the sensor switches on the light automatically when person enters room.

People left, light still dims to 0/10%/30%/50% (options) standby level after the hold time.

Light switches off automatically after after stand-by time elapsed.

**⚠ WARNING**

NOTE: Warm up time is 15seconds. After the sensor connects input power first time,the light will on 15seconds,then goes dimming or off to work normally.



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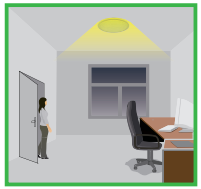
### 2.Photocell(Daylight sensor) Control

In condition by setting, Press Ⓑ , the photocell(Daylight sensor) on/off setpoint is open. When the light level exceeds this setting, the lights will turn off even when the space is occupied. Once the light level exceeds this setting, the sensor will wait and monitor for 1 min in order to confirm the light level increase is not temporary before forcing the lights to go off. When light level goes below the settings, the light will turn on even without motion detection after 1min. This feature is disabled by default.

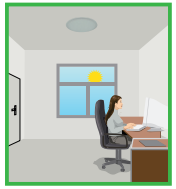
If with insufficient natural light, the light automatically dims to 0,10%, 30%, 50%.



With insufficient natural light, the sensor switches 100% on the light automatically when person enters the room.

People left, light dims to 0/ 10%/30%/50% (options) standby level after the hold time.

The ligth still dims to 0/10%/30% /50% if still insufficient natural light, the light never switch off until sufficient natural light.



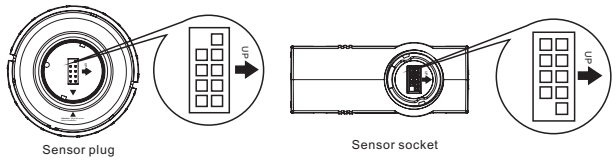
Light will switch off automaticallz even with presence detected, if the nature light is sufficient.

## INSTALLATION

1. Determine an appropriate mounting location inside the light fixture minimizing the electric light contribution to the sensor's photocell. Allow a minimum distance of 0. 2" (5. 1mm) from the wiring end of the sensor to the wall of the fixture.
2. Drill a hole 1. 30"(33. 0mm) in diameter through the sheet metal in the bottom of the fixture.
3. Add the rubber gasket to the threaded collar, and install the sensor face down, parallel to the mounting surface. Ensure the rubber gasket touches the inside surface of the fixture. Install the plastic nut securely against the fixture to a torque of 25-30 in-lbs to ensure IP rating is maintained.
4. Align the locking features between the sensor socket and the sensor plug and push the sensor plug forward until the o-ring seals firmly. Turn the sensor plug clockwise to ensure it locks in place.

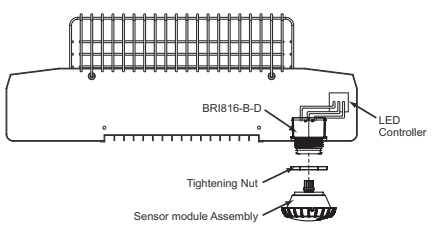
4-1: Align the arrow in bottom of sensor plug

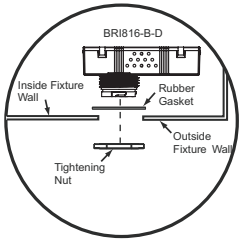

4-2: The arrow mark between sensor plug and sensor socket should be consistent

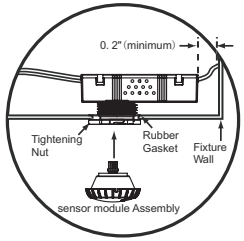



**Attention**: the arrow mark direction should be consistent

5. Connect wires as shown in wiring diagram.
6. Restore power from the circuit breaker.



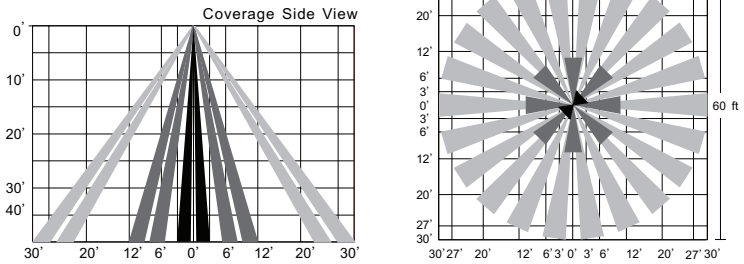




Note: The Outside Fixture Wall thickness should be no greater than 0.125" (3.18mm) for optimal sensor mounting and security.

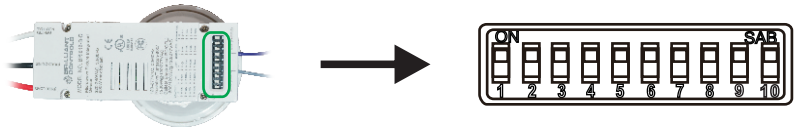
Outdoor Use at the exposed Sensor Collar part only when installed at the specific location per Installation Instructions with a Listed Outdoor Enclosure.

## SENSOR COVERAGE



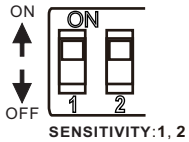

## PARAMETER SETTING BY DIP SWITCH

Consider the picture: 1, 2 set sensitivity; 3, 4 set hold time; 5, 6 set the lux; 7, 8 stand-by light level ; 9, 10 set stand-by time ;




### Detection Range Setting (sensitivity)

Detection range is the term used to describe the radii of the more or less circular detection zone produced on the ground after mounting the sensor light at a height of 40ft, pull switch to the ON position as " ↑ ", pull switch to the OFF position as "↓", switch location and detection range of the corresponding table is as follows:

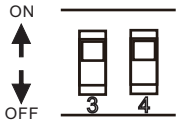



**SENSITIVITY:1, 2**

| SENSITIVITY 1 | 2 | |
|---|---|---|
| ↓ | ↓ | 20% |
| ↓ | ↑ | 50% |
| ↑ | ↓ | 75% |
| ↑ | ↑ | 100% |

### Hold Time Setting

The light can be set to stay ON for any period of time between approx.10sec and a maximum of 15min. Any movement detected before this time elapse will re-start the timer. It is recommended to select the shortest time for adjusting the detection zone and for performing the walk test.
Pull switch to the ON position as "↑", pull switch to the OFF position as "↓", switch location and detection range of the corresponding table is as follows:




**TIME:3, 4**

| TIME 3 | 4 | |
|---|---|---|
| ↓ | ↓ | 10S |
| ↓ | ↑ | 1Min |
| ↑ | ↓ | 5Min |
| ↑ | ↑ | 15Min |

### Light-control Setting

The chosen light response threshold can be infinitely from approx. 10-50lux, pull switch to the ON position as "↑", pull switch to the OFF position as "↓", switch location and light-control of the corresponding table is as follows:



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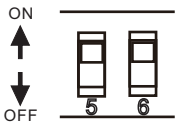
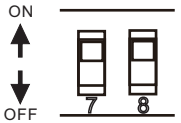



**LUX:5, 6**

| LIGHT 5 | 6 | |
|---|---|---|
| ↓ | ↓ | ☼ (light sensor disable) |
| ↓ | ↑ | 10Lux |
| ↑ | ↓ | 30Lux |
| ↑ | ↑ | 50Lux |

### Stand-by Light Level Setting

Switch to the on is "↑", switch to the off is "↓"; he corresponding file of switch location and detection distance as follow:

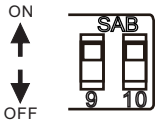



**STAND-BY LEVEL:7, 8**

| STAND-BY LEVEL 7 | 8 | |
|---|---|---|
| ↓ | ↓ | 0% |
| ↓ | ↑ | 10% |
| ↑ | ↓ | 30% |
| ↑ | ↑ | 50% |

### Stand-by Time Setting

File of switch location and detection distance as follow: file of switch location and detection distance as follow:



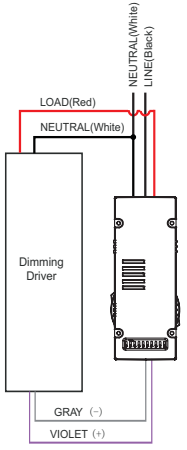

**STAND-BY TIME:9, 10**

| STAND-BY TIME 9 | 10 | |
|---|---|---|
| ↓ | ↓ | +∞ |
| ↓ | ↑ | 1Min |
| ↑ | ↓ | 30Min |
| ↑ | ↑ | 60Min |

## PARAMETER SETTING BY REMOTE CONTROL IN MANUAL

## WIRING DIAGRAMS

WEC-3MDR-42 wiring with dimmingballast or LED driver.
Dimming Driver




WEC-3MDR-42 wiring with non-dimmingballast or LED driver.
Non-Dimming Driver