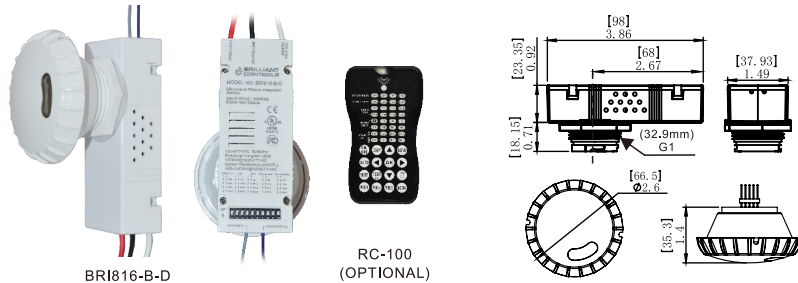


# ■ Bi-level Microwave Sensor For High Bay Light BRI816-B-D Instruction



## INTRODUCTION

The BRI816-B-D 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 module connects 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@120V/1200W@277V<br>Fluorescent Ballast - 660W@120V/1200W@277V<br>Electronic Ballast (LED/CFL) - 5A@120V/5A@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)                                                                                                           |

## ⚠ WARNING

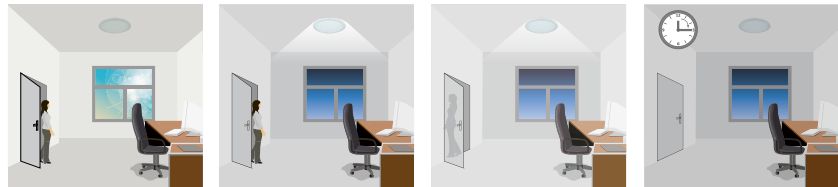
**NOTE:** Warm up time is 15seconds. After the sensor connects input power first time, the light will keep on 15seconds, then go to dimming to work normally.

**NOTE:** Factory Default Setting: 100% sensitivity, Hold on time: 10seconds, Daylight sensor is 30lux, Dimming level: 30%, Dimming time: 60minutes.

**NOTE:** Any setting changed by DIP Switch or remote control, the led light that sensor connect will on/off as confirm.

## Corridor Function

This function inside the motion sensor to achieve tri-level control, for some areas which require a light change notice before switch-off. The sensor offers 3 levels of light: 100%-->dimmed light (natural light is insufficient) -->off; and 2 periods of selectable waiting time: motion hold-time and stand-by period; Selectable daylight threshold and freedom of detection area.



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

With insufficient natural light, the sensor switches on the light automatically when presence is detected.

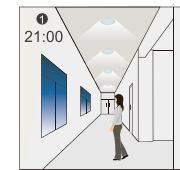
After hold-time, the light dims to stand-by level if the surrounding natural light is below the daylight threshold.

Light switches off automatically after the stand-by period elapses.

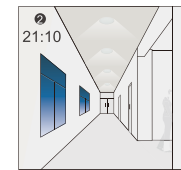
# ■ Bi-level Microwave Sensor For High Bay Light BRI816-B-D Instruction

## Daylight Sensor Function

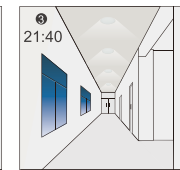
Open the daylight sensor by push **Ⓢ** when remote control is in setting condition.



The light switches on at 100% when there is movement detected.

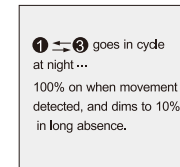


The light dims to stand-by level after the hold-time.



The light remains in dimming level at night.

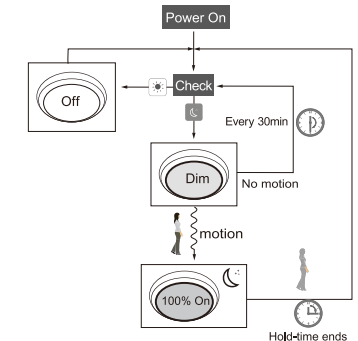
Settings on this demonstration:  
 Hold-time: 30min  
 Setpoint on: 50lux  
 Setpoint off: 300lux  
 Stand-by Dim: 10%  
 Stand-by period: +∞  
 (when the smart photocell sensor open, the stand-by time is only +∞)



When the natural light level exceeds setpoint off to light, the light will turn off even if when the space is occupied.



The light automatically turns on at 10% when natural light is insufficient (no motion).

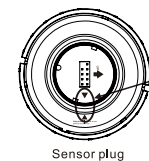


## INSTALLATION

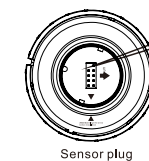
- Determine an appropriate mounting location inside the light fixture minimizing the electric light contribution to the sensor's photocell. Allow a minimum distance of 0.2" (5.1mm) from the wiring end of the sensor to the wall of the fixture.
- Drill a hole 1.30"(33.0mm) in diameter through the sheet metal in the bottom of the fixture.
- 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.
- 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

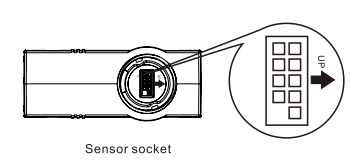
4-2: The arrow mark between sensor plug and sensor socket should be consistent



Attention: Align the arrow before installation



Sensor plug

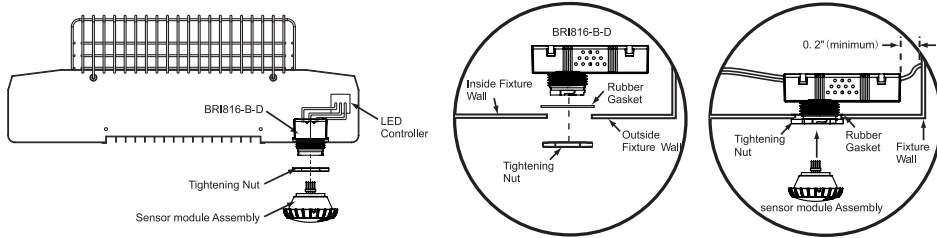


Sensor socket

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

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

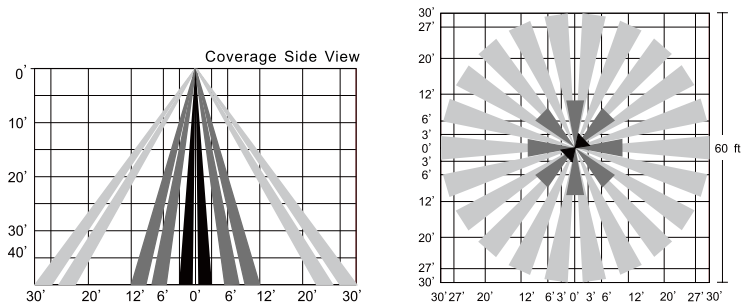
# ■ Bi-level Microwave Sensor For High Bay Light BRI816-B-D Instruction



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

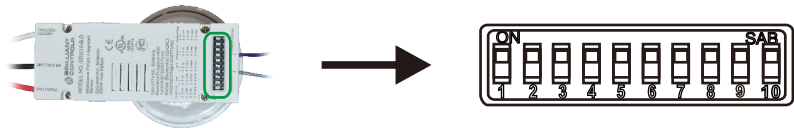
Outdoor Use at the exposed Sensor Collar part only when installed at the specific location per Installation Instructions with a Listed Outdoor Enclosure.

## 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:

| ON<br>↑<br>OFF<br>↓ | SENSITIVITY |
|---------------------|-------------|
| 1                   | 20%         |
| 2                   | 50%         |
| 3                   | 75%         |
| 4                   | 100%        |

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### 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 hold time of the corresponding table is as follows:

| ON<br>↑<br>OFF<br>↓ | TIME  |
|---------------------|-------|
| 3                   | 10S   |
| 4                   | 1Min  |
| 5                   | 5Min  |
| 6                   | 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:

| ON<br>↑<br>OFF<br>↓ | LIGHT                  |
|---------------------|------------------------|
| 5                   | (light sensor disable) |
| 6                   | 10Lux                  |
| 7                   | 30Lux                  |
| 8                   | 50Lux                  |

### Stand-by Light Level Setting

Switch to the on is "↑", switch to the off is "↓"; The corresponding file of switch location and stand-by level as follow:

| ON<br>↑<br>OFF<br>↓ | STAND-BY LEVEL |
|---------------------|----------------|
| 7                   | 0%             |
| 8                   | 10%            |
| 9                   | 30%            |
| 10                  | 50%            |

### Stand-by Time Setting

Switch to the on is "↑", switch to the off is "↓";File of switch location and stand-by time setting as follow:

| ON<br>↑<br>OFF<br>↓ | STAND-BY TIME |
|---------------------|---------------|
| 9                   | +∞            |
| 10                  | 1Min          |
| 11                  | 30Min         |
| 12                  | 60Min         |

## PARAMETER SETTING BY REMOTE CONTROL IN MANUAL OF RC-100.

## WIRING DIAGRAMS

BRI816-B-D wiring with dimming ballast or LED driver.

