

# MW-BK-EZ10

## EZ-Connect™ Microwave and Daylight Sensor



The MW-BK-EZ10 is a Plug & Play Microwave and Daylight Sensor suitable for up to 40' Mounting Heights.

It provides automatic On/Off/Dim control based on motion and/or daylight levels. This sensor actively emits microwaves and uses the Doppler shift of the return waves to detect motion, even through glass and non-metallic walls. Rated for wet and cold locations, it can be field installed in fixtures equipped with an EZ-Connect™ receptacle with Twist Lock System. Sensitivity, timers, and light levels can be adjusted with a remote programmer (SEN-PROG), sold separately.

### TECHNICAL SPECIFICATIONS<sup>1</sup>

- **Construction:** Black Polycarbonate.
- **Sensing Technology:** 5.8GHz Microwave Sensor.
- **Connection Method:** EZ10 (Compatible with EZ-Connect™ Receptacles with Twist Lock System).
- **Input Voltage:** 12-24V DC.
- **Current Consumption:** >50mA.
- **Standby Power:** ≤ 0.5W.
- **Control Output:** 0-10V, 25mA.
- **Operating Temperature Range:** -20°C to +60°C (-4°F to +140°F).
- **Max Mounting Height:** 40ft (12m).
- **Max Sensor Range:** 50ft (15m) radius.

### LISTINGS

- FCC, UL, DLC, RoHS, IP65.

### FEATURES

- EZ-Connect™: installs in seconds without tools or wiring.
- MW Detection with 360° Coverage Pattern, best suited for indoor areas with high ambient temperatures, odd shaped rooms, and open spaces with many obstacles (non-metallic).
- Integrated Daylight Sensor for Daylight Harvesting.
- LED Motion Indicator.
- Suitable for Indoor and Outdoor use.

### CONTROL SETTINGS

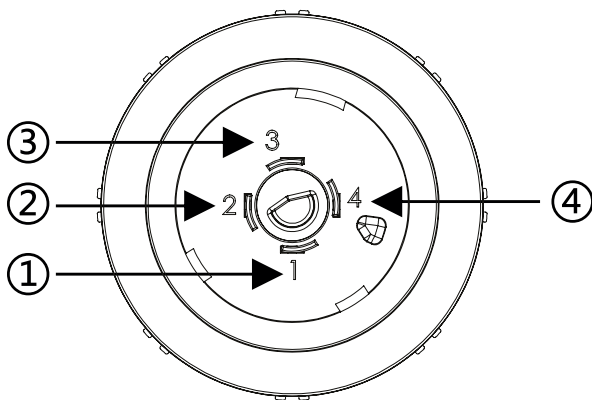
- **Sensitivity (Detection Area):** 25%/50%/75%/100%.
- **Hold Time:** 10s/1min/5min/10min/15min/20min/30min/60min.
- **Daylight Threshold On:** 10lux/30lux/50lux/current value.
- **Daylight Threshold Off:** 100lux/300lux/500lux/disabled.
- **Stand-by Time:** 1min/30min/60min/+∞.
- **Stand-by Dim Level:** 0%/10%/30%/50%.



## ORDERING

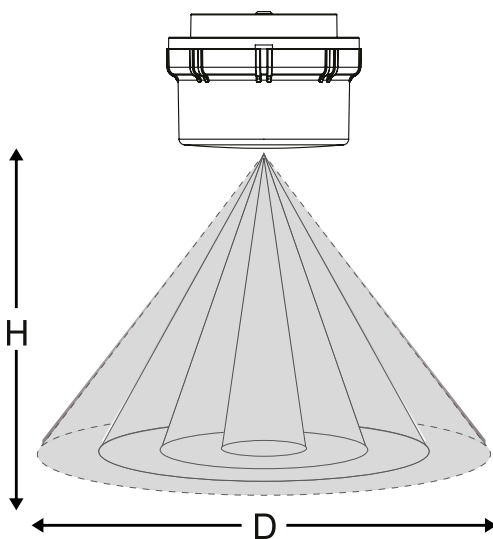
Part Number	Description
<b>MW-BK-EZ10</b>	Microwave Occupancy and Daylight Sensor, Black Color, EZ-Connect™ Twist Lock System, Plug & Play, On/Off/Dim, 40' Max Mounting Height, IP65. Field installed. Sensor can be re-programmed with remote SEN-PROG (sold separately).
<b>SEN-PROG</b>	Infrared Remote Programmer. Required to change default settings and modes of operation.

## CONNECTION DIAGRAM



<b>Port 1</b>	12-24V DC
<b>Port 2</b>	GND/DIM-
<b>Port 3</b>	DIM+
<b>Port 4</b>	NC

## SENSOR COVERAGE



Height (H)	Range Diameter (D) vs Sensitivity			
	100%	75%	50%	25%
40'	50'	30'	5'	0'
30'	60'	50'	20'	0'
20'	40'	40'	30'	10'
10'	40'	40'	40'	20'

### Note:

The detection range above is applicable when the person detected measures between 5' and 5' 7" and moves at a speed between 3-5ft/s. Other heights and speeds will have different detection results.

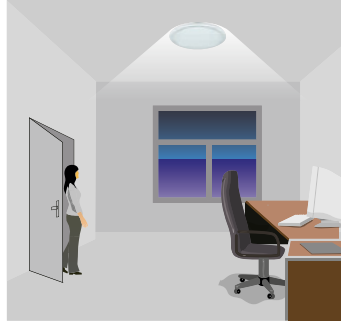
# SENSOR OPERATION

## On/Off/Dim (Default Mode)

**Factory default settings:** Sensitivity: 100%, Hold time: 5min, Daylight sensor: disabled, Stand-by dim level: 30%, Stand-by time: 60min. This mode offers three levels of light: On/Off/Dim and two periods of selectable waiting time: Hold Time and Stand-by Time.



With sufficient natural light, even when motion is detected, the fixture remains **Off**.



With insufficient natural light, when motion is detected, the fixture turns **On**.



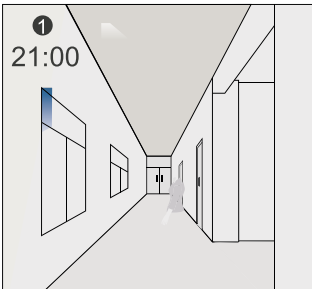
After hold time, the fixture **Dims** to stand-by level if natural light stays below daylight threshold.



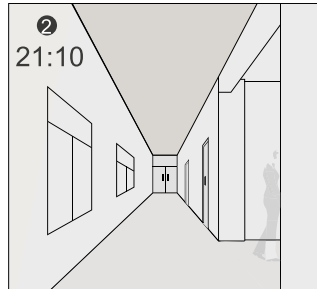
The fixture switches **Off** automatically after the stand-by time.

## Smart Daylight Control

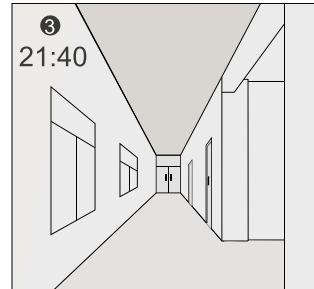
Enable the smart daylight sensor functionality by pushing  when the remote programmer is in settings mode.



The fixture turns **On** at 100% when motion is detected.



The fixture **Dims** to stand-by level after hold time.

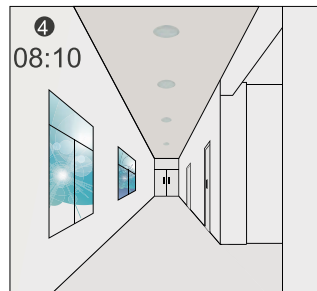


The fixture remains **Dimmed** to stand-by level at night.

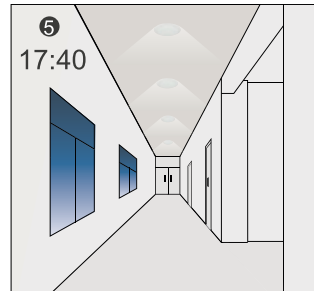
Settings for this example:

- Hold Time: 30min
  - Daylight Threshold On: 50lux
  - Daylight Threshold Off: 300lux
  - Stand-by Dim Level: 10%
  - Stand-by Time: ∞
- (when the smart photocell sensor open, stand-by period is only ∞)

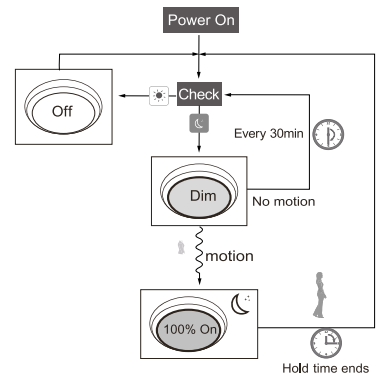
**1** ↔ **3** goes in cycle at night...  
100% on when movement detected, and dims to 10% in long absence.



When natural light exceeds the daylight threshold off, the fixture will turn **Off** even if motion is detected.

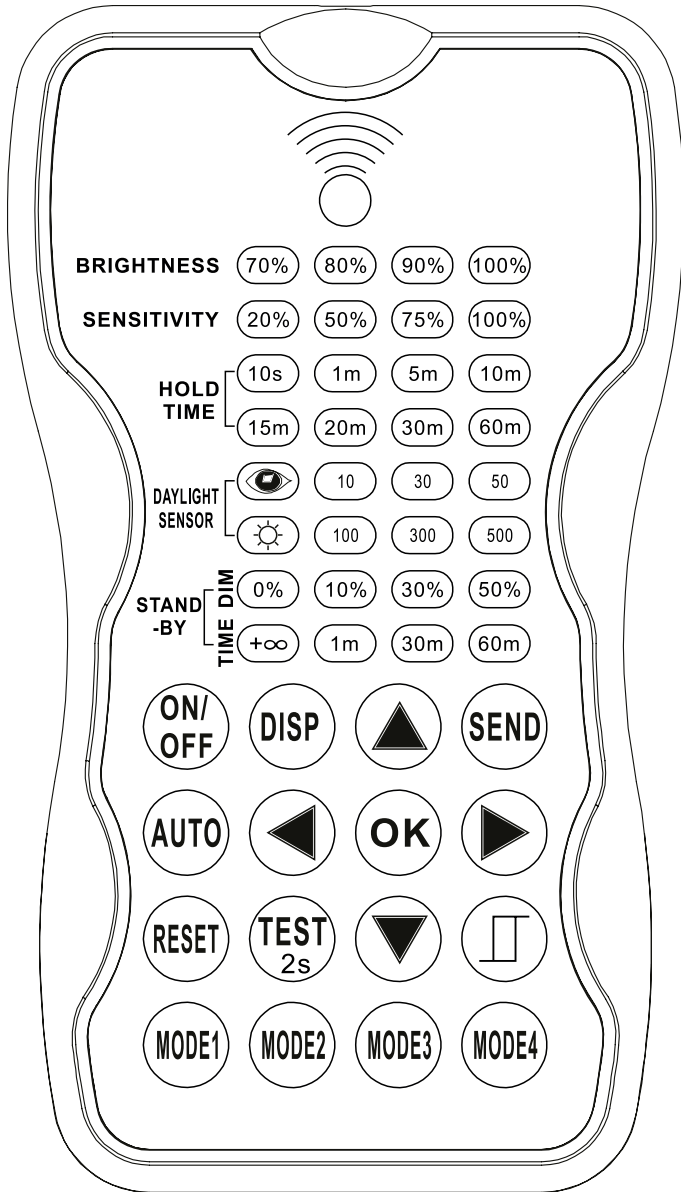


The fixture automatically turns **On** at 10% stand-by dim level when natural light is insufficient (no motion).



## INFRARED REMOTE PROGRAMMER



The Infrared Remote Programmer (SEN-PROG) is required to change default settings and modes of operation.



### Specifications

Power Supply	2 x AAA 1.5V batteries.
Upload Range	Up to 50 ft.
Op. Temperature	0°C to 50°C (32°F to 122°F).

### LED Indicators

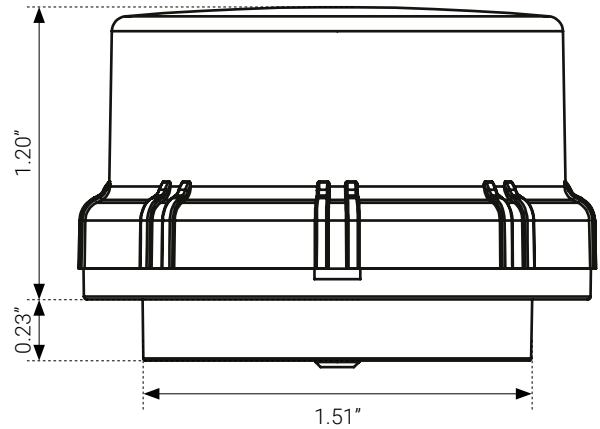
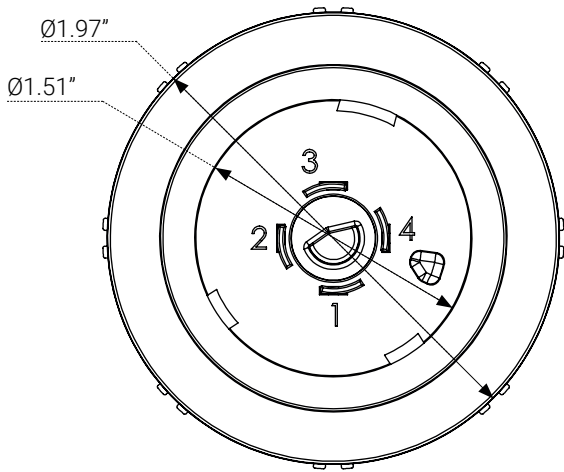
<b>Brightness</b>	Light output during occupancy.
<b>Sensitivity</b>	Detection area of the sensor.
<b>Hold Time</b>	Time the sensor waits to turn off or dim the light after the area is vacated.
<b>Daylight Sensor</b>	Daylight sensor status and daylight threshold values in lux.
	<b>Daylight harvesting function.</b> Selects the current surrounding lux value as the daylight threshold.
	<b>Daylight sensor disabled.</b> All motion detected turns on the light, no matter how bright the natural light is.
<b>Stand-by Dim</b>	Light output during vacancy.
<b>Stand-by Time</b>	Time the sensor keeps the light at stand-by dim level after the hold time has elapsed.

### Scene Modes

The remote comes with four pre-programmed modes. These can be used as is, or adjusted with different parameters and saved over an existing mode.

Scene	Application	Brightness	Sensitivity	Hold Time	Stand-by Dim	Stand-by Time	Daylight Sensor
<b>MODE 1</b>	Indoor	100%	75%	5min	30%	30min	Disabled
<b>MODE 2</b>	Indoor	100%	75%	1min	30%	+∞	Disabled
<b>MODE 3</b>	Indoor	100%	75%	5min	30%	30min	30lux
<b>MODE 4</b>	Outdoor	100%	75%	1min	30%	+∞	30lux/300lux

## DIMENSIONS & DRAWINGS



## FOOTNOTES

1. The performance of sensors and lenses is influenced by various factors beyond Linmore LED's control, including but not limited to environmental conditions, user settings, and proper maintenance. While we provide detailed specifications and guidelines to help optimize performance, we cannot guarantee or be held liable for the performance of sensors or lenses under any particular circumstance(s). Customers are advised to test the products in their specific application environments to ensure suitability for their intended use and are responsible for all sensor and lens selections.

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