**ECOELER YM2511**

# ECOELER YM2511 Ceiling Occupancy Motion Sensor Switch Instruction Manual

Model: YM2511

## 1. Introduction and Overview

The ECOELER YM2511 Ceiling Occupancy Motion Sensor Switch is designed to automatically control lighting based on occupancy detection. Utilizing Passive Infrared (PIR) technology, it senses moving objects within its detection zone to turn lights ON and OFF, promoting energy efficiency.
This sensor features adjustable settings for time delay, sensitivity, and ambient light levels, allowing customization for various environments. It offers a 360-degree detection range, making it suitable for a wide array of applications including hallways, bathrooms, storage areas, and commercial spaces.

Figure 1: ECOELER YM2511 Ceiling Occupancy Motion Sensor Switch. This image displays the compact, white square-shaped sensor unit with its integrated PIR lens and wiring conduit.

## 2. Safety Information

**WARNING: Risk of Electric Shock.** Improper installation can lead to serious injury or death. Always turn off power at the circuit breaker before installation or servicing. Installation should be performed by a qualified electrician in accordance with all national and local electrical codes.

- Ensure the power supply is disconnected before handling any wiring.
- Verify voltage compatibility (120/277VAC) before installation.
- Use copper conductors only.
- Connect to supply connections rated for at least 75°C.
- Do not install in locations with excessive vibration or extreme temperatures.

## 3. Package Contents

The ECOELER YM2511 package includes:

- ECOELER YM2511 Occupancy Sensor

- Mounting accessories (e.g., wire nuts)
- User manual (this document)

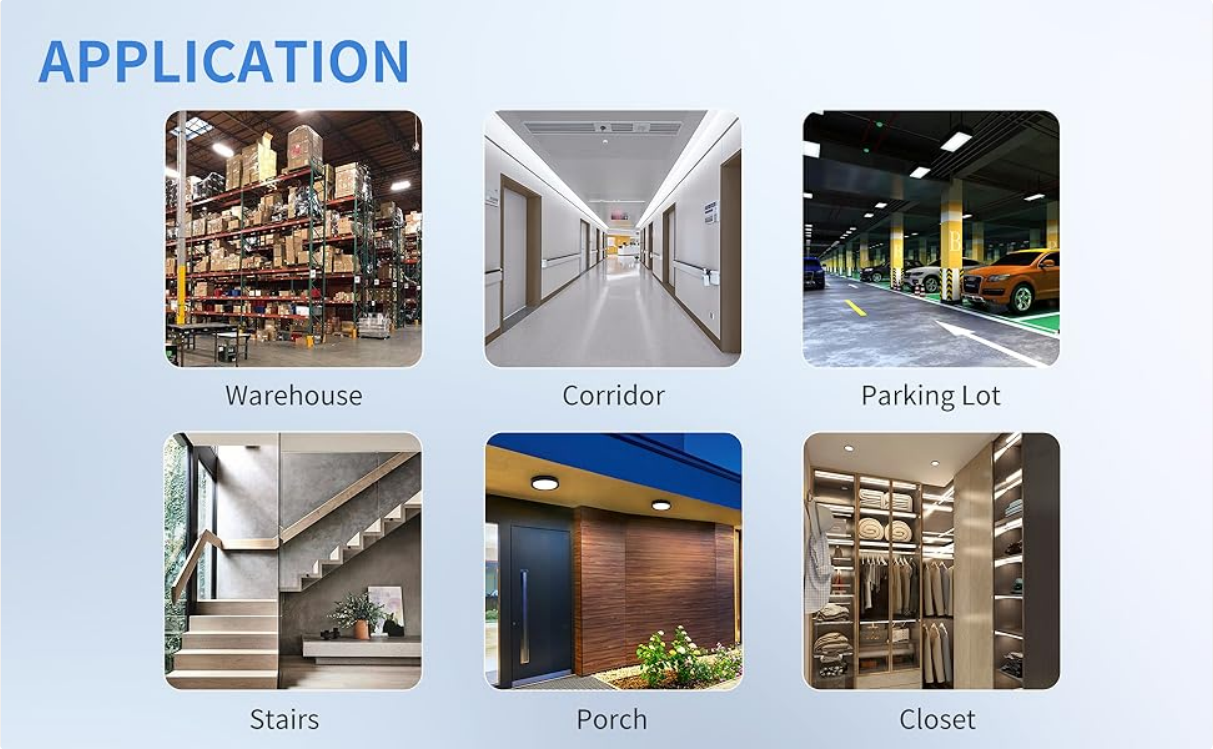


Figure 2: Included wire nuts for electrical connections. This image shows three orange wire nuts, typically used for securing electrical connections during installation.

## 4. Specifications

| Feature | Specification |
|---|---|
| Model Number | YM2511 |
| Voltage | 120/277VAC, 60Hz |
| Max Load (Incandescent) | 120VAC: 600W |
| Max Load (Fluorescent/LED) | 120VAC: 800W, 277VAC: 1200W |
| Detection Technology | Passive Infrared (PIR) |
| Detection Angle | 360 degrees |
| Detection Range | Up to 24 feet (7.3 meters) diameter when mounted at 20 feet height |
| Adjustable Time Delay | 15 seconds to 30 minutes |
| Adjustable Sensitivity | 20% to 100% |
| Adjustable Light Level | Yes (Daylight Harvesting) |
| Operating Temperature | 0°C to 55°C (32°F to 131°F) |
| Product Dimensions | 3.97 x 1.37 x 3.14 inches |
| Mounting Type | Ceiling Mount (Fixture Mount) |

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| Certifications | UL, FCC Approved |


Figure 3: Dimensional drawing of the ECOELER YM2511 sensor. This diagram provides precise measurements of the sensor unit, including its length, width, and height, along with the diameter of the threaded conduit.

## 5. Installation

### 5.1 Pre-Installation Checklist

- Turn off power at the circuit breaker.
- Ensure you have the necessary tools (screwdriver, wire strippers, electrical tape).
- Confirm the mounting location is suitable for a ceiling-mounted sensor, free from obstructions that might block the detection field.

### 5.2 Wiring Instructions

The ECOELER YM2511 requires a neutral wire for operation. Follow the wiring diagram provided with your product or consult a qualified electrician. Typical wiring involves connecting the sensor's wires to the building's electrical system (Line, Load, Neutral, Ground).

- **Black Wire:** Line (Hot)

- **White Wire:** Neutral
- **Red Wire:** Load (to light fixture)
- **Green/Bare Copper Wire:** Ground (if applicable)

Secure all connections with wire nuts and electrical tape. Ensure no bare wires are exposed.

### 5.3 Mounting

Mount the sensor to a standard ceiling junction box or directly to a high bay fixture. The sensor is designed for optimal 360-degree detection when installed at a height of approximately 20 feet, providing a detection range of up to 24 feet in diameter.


Figure 4: 360-degree PIR motion detection pattern. This diagram illustrates the circular detection field of the sensor, showing how it covers a wide area around its mounting point, with a person icon indicating motion detection.

## 6. Operation and Settings

After installation and restoring power, the sensor will enter a warm-up period. The integrated LED indicator will flash during motion detection. The sensor features three adjustable dials for customization:


Figure 5: Adjustment dials for Time, Sense, and Light. This image shows the three rotary dials on the sensor's face, labeled for adjusting time delay, sensitivity, and ambient light detection.

1. **TIME (1):** Controls how long the light or fan remains ON after no motion is detected. Adjustable from 15 seconds to 30 minutes.
    - Rotate clockwise for longer delay.
    - Rotate counter-clockwise for shorter delay.
2. **SENSE (2):** Adjusts the sensitivity of the motion detection. This helps prevent unwanted activations from minor movements or distant traffic. Adjustable from 20% to 100%.
    - Rotate clockwise for higher sensitivity (detects smaller movements, wider range).
    - Rotate counter-clockwise for lower sensitivity (detects larger movements, shorter range).
3. **LIGHT (3):** Prevents the sensor from automatically turning ON lights or fans if there is sufficient ambient lighting in the area (Daylight Harvesting).
    - Rotate clockwise to allow activation in brighter conditions.
    - Rotate counter-clockwise to only activate in darker conditions.

The sensor is compatible with various lighting types:


Figure 6: Universal compatibility with various lamp types. This graphic shows icons for Incandescent, CFL, and LED lamps, indicating the sensor's broad compatibility with different lighting technologies and their respective wattage ratings.

## 7. Troubleshooting

| Problem | Possible Cause | Solution |
|---|---|---|
| Lights do not turn ON with motion. | ◦ No power to the sensor.<br>◦ Incorrect wiring.<br>◦ Light level setting too high (Daylight Harvesting active).<br>◦ Sensitivity setting too low.<br>◦ Motion outside detection range. | ◦ Check circuit breaker and wiring connections.<br>◦ Verify wiring against instructions.<br>◦ Adjust the LIGHT dial counter-clockwise.<br>◦ Increase the SENSE dial setting.<br>◦ Ensure motion occurs within the 360-degree detection zone. |
| Lights turn OFF too quickly. | ◦ Time delay setting too short.<br>◦ Sensor not detecting continuous motion. | ◦ Increase the TIME dial setting.<br>◦ Increase the SENSE dial setting or reposition the sensor for better coverage. |

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|---|---|---|
| Lights turn ON without apparent motion. | ◦ Sensitivity setting too high.<br>◦ Heat sources or air currents causing false triggers. | ◦ Decrease the SENSE dial setting.<br>◦ Relocate the sensor away from HVAC vents, windows, or other heat sources. |

## 8. Maintenance

The ECOELER YM2511 sensor requires minimal maintenance. Periodically, gently wipe the sensor lens with a soft, dry cloth to remove dust or debris that may obstruct detection. Do not use abrasive cleaners or solvents.
Regularly inspect wiring connections for any signs of wear or damage. If any issues are found, disconnect power and consult a qualified electrician.

## 9. Warranty and Support

ECOELER products are designed for reliability and performance. For any questions regarding your ECOELER YM2511 Motion Sensor Switch, please contact our customer service. We are committed to providing support and will respond to inquiries within 24 hours.
Please refer to your purchase documentation for specific warranty terms and conditions.



**Related Documents - YM2511**

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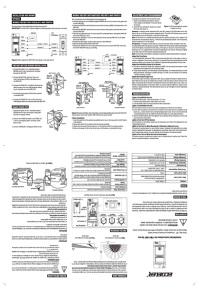
|---|---|
|  | ECOELER YM2108T Motion Sensor Light Switch Installation and User Manual<br>Comprehensive guide for installing, wiring, adjusting, and troubleshooting the ECOELER YM2108T motion sensor light switch. Features include PIR detection, time delay, and lux level settings. |