**CEMELI SY-PIR203B**

# CEMELI SY-PIR203B Human Body Infrared Sensor Switch User Manual

Model: SY-PIR203B

## 1. Introduction

This manual provides detailed instructions for the installation, setup, operation, and maintenance of the CEMELI SY-PIR203B Human Body Infrared Sensor Switch. This intelligent sensor switch is designed to detect human motion within its detection range and automatically control connected lighting or other electrical loads, offering convenience and energy efficiency.

## 2. Safety Information

- **Electrical Hazard:** Installation should only be performed by a qualified electrician or competent person. Ensure power is disconnected at the circuit breaker before installation or maintenance.
- **Voltage Compatibility:** Verify that the operating voltage of the switch (AC220-240V or AC110-240V) matches your electrical supply.
- **Load Capacity:** Do not exceed the maximum rated load of the switch (Tungsten lamp 1200W, Energy-saving and LED lamp 300W). Overloading can cause damage or fire.
- **Indoor Use Only:** This device is intended for indoor use in dry locations. Do not expose to moisture or extreme temperatures.
- **Mounting:** Mount the sensor securely to prevent it from falling.

## 3. Product Overview

The CEMELI SY-PIR203B is a 360-degree ceiling-mounted infrared motion sensor switch. It features a sensitive PIR (Passive Infrared) sensor and three adjustable knobs for customizing its operation.


This image shows the top view of the CEMELI SY-PIR203B infrared sensor switch. Visible components include the dome-shaped sensor lens at the bottom and three adjustment knobs labeled 'TIME', 'SENS', and 'LUX' at the top.

### Key Components:

- **PIR Sensor Lens:** The translucent, dome-shaped part at the bottom of the unit, responsible for detecting infrared radiation from moving bodies.
- **TIME Knob:** Adjusts the duration the connected load remains ON after motion detection ceases.
- **SENS Knob:** Adjusts the sensitivity of the motion detection.
- **LUX Knob:** Adjusts the ambient light threshold at which the sensor will operate.

## 4. Specifications

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| **Product Name** | Human Body Infrared Sensor Switch |
| **Model** | SY-PIR203B |
| **Product Size** | Diameter 115mm x Height 57mm |
| **Net Weight** | 140g (0.31 lbs) |
| **Working Voltage** | AC220-240V or AC110-240V |
| **Working Temperature** | -20°C to +40°C |
| **Rated Load (Tungsten Lamp)** | 1200W |
| **Rated Load (Energy-saving & LED Lamp)** | 300W |

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| **Delay Time** | 5 to 420 seconds (adjustable) |
| **Application Scope** | Home smart lighting |

## 5. Installation

### 5.1 Wiring Instructions

**WARNING:** Ensure power is OFF at the circuit breaker before proceeding with wiring.

1. Identify the Live (L), Neutral (N), and Load (L') wires from your electrical circuit.
2. Connect the Live wire from the power supply to the 'L' terminal on the sensor switch.
3. Connect the Neutral wire from the power supply to the 'N' terminal on the sensor switch.
4. Connect the Load wire (leading to your light fixture or appliance) to the 'L" terminal on the sensor switch.
5. Ensure all connections are secure and properly insulated.

### 5.2 Mounting

The SY-PIR203B is designed for ceiling mounting to provide a 360-degree detection area. Choose a location free from obstructions that might block the sensor's view. Avoid mounting near heat sources, air conditioning vents, or direct sunlight, as these can cause false triggers.

1. Carefully detach the mounting base from the sensor unit.
2. Position the mounting base on the ceiling at the desired location. Mark the screw holes.
3. Drill pilot holes and secure the mounting base to the ceiling using appropriate screws and anchors.
4. After wiring, align the sensor unit with the mounting base and twist or snap it into place until it is securely fastened.

## 6. Setup and Configuration

The sensor switch features three adjustable knobs on its surface to customize its operation:


This image highlights the three adjustment knobs: 'TIME' (left), 'SENS' (middle), and 'LUX' (right), located on the top surface of the sensor switch.

### 6.1 TIME Adjustment

The 'TIME' knob controls how long the connected light or appliance remains ON after motion is no longer detected. Rotate the knob to adjust the delay time:

- Rotate towards '–' for a shorter delay (minimum 5 seconds).
- Rotate towards '+' for a longer delay (maximum 420 seconds).

### 6.2 SENS (Sensitivity) Adjustment

The 'SENS' knob adjusts the detection sensitivity of the PIR sensor. This determines how easily the sensor detects motion.

- Rotate towards '–' to decrease sensitivity (e.g., for smaller detection areas or to avoid detecting pets).
- Rotate towards '+' to increase sensitivity (e.g., for larger detection areas).

### 6.3 LUX (Ambient Light) Adjustment

The 'LUX' knob sets the ambient light level at which the sensor will activate. This allows the sensor to only turn on lights when the room is dark enough.

- Rotate towards the 'moon' symbol to make the sensor activate only in very low light conditions (e.g., at night).
- Rotate towards the 'sun' symbol to make the sensor activate in brighter conditions (e.g., during the day, or to test functionality).

## 7. Operating Instructions

Once installed and configured, the CEMELI SY-PIR203B sensor switch operates automatically:

1. When the ambient light level falls below the set LUX threshold (if not set to 'sun' mode), the sensor becomes active.
2. Upon detecting motion within its 360-degree detection range, the sensor will activate the connected load (e.g., turn on lights).
3. The load will remain ON for the duration set by the TIME knob.
4. If motion is detected again before the set time expires, the timer will reset, and the load will remain ON for the full duration from the last detection.
5. After the set time expires and no further motion is detected, the load will automatically turn OFF.

## 8. Maintenance

The CEMELI SY-PIR203B sensor switch requires minimal maintenance.

- **Cleaning:** Periodically wipe the sensor lens and housing with a soft, dry cloth to remove dust or dirt. Do not use abrasive cleaners or solvents.
- **Obstructions:** Ensure that the sensor's detection area remains clear of any new obstructions (e.g., furniture, decorations) that could block its view.

## 9. Troubleshooting

| Problem | Possible Cause / Solution |
| --- | --- |
| Light does not turn on when motion is detected. | ◦ **No power:** Check circuit breaker and wiring connections.<br>◦ **LUX setting too low:** Adjust the LUX knob towards the 'sun' symbol for testing, or ensure ambient light is below the set threshold.<br>◦ **SENS setting too low:** Increase sensitivity by rotating the SENS knob towards '+'.<br>◦ **Motion outside detection range:** Ensure motion occurs within the sensor's 360-degree field of view.<br>◦ **Faulty bulb/fixture:** Test the connected light fixture with a standard switch. |
| Light stays on continuously. | ◦ **Constant motion:** Ensure no continuous motion is within the detection area.<br>◦ **TIME setting too long:** Adjust the TIME knob towards '–' to shorten the delay.<br>◦ **Wiring error:** Recheck wiring connections, especially the load wire.<br>◦ **Sensor malfunction:** If other solutions fail, the sensor may be faulty. |

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| Light turns on too frequently or for no apparent reason. | ◦ **SENS setting too high:** Decrease sensitivity by rotating the SENS knob towards '–'.<br>◦ **Heat sources/air currents:** Reposition the sensor away from heating vents, air conditioners, or direct sunlight that can cause false triggers.<br>◦ **Small animals:** Adjust sensitivity to ignore smaller movements. |

## 10. Warranty and Support

Specific warranty information and customer support details for the CEMELI SY-PIR203B Human Body Infrared Sensor Switch are not provided in the available product data. Please refer to the retailer or manufacturer's website for warranty terms and contact information for technical support.