

# INSTALLATION INSTRUCTION

## Motion Sensor

MS-120

# WAC LIGHTING

Responsible Lighting®

### WARNING

IMPORTANT: NEVER attempt any work without shutting off the electricity.

- Read all instructions before installing.
- System is intended for installation by a qualified electrician in accordance with the National Electrical Code and local regulations.

### AVERTISSEMENT

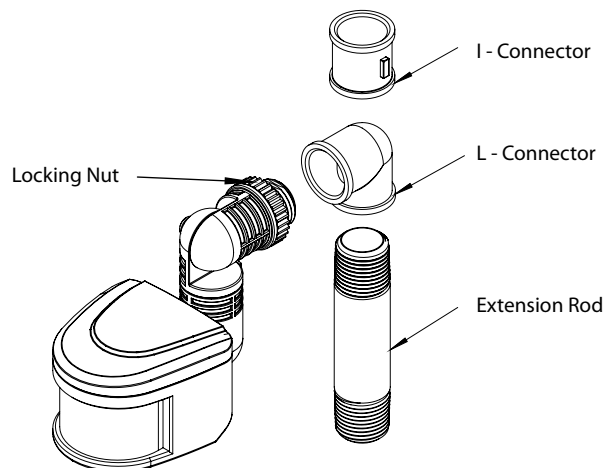
IMPORTANT : Coupez l'électricité avant TOUTE manipulation.

- Lisez toutes les instructions avant d'installer.
- Système est destiné à être installé par un électricien qualifié en conformité avec le code national de l'électricité et les règlements locaux.

### INTRODUCTION

The Motion Sensor utilizes passive infrared (PIR) technology to detect heat radiation of moving bodies. Upon detection, the connected lighting load will illuminate for a user-determined time period. An integrated daylight sensor (Photoelectric Cell) ensures operation and detection only at night. The extension kit provides versatility in aiming the unit.

<b>Input</b>	: 120V AC
<b>Max. Load</b>	: 200W LED Lamp
<b>Application Location</b>	: Dry or Wet locations



### FEATURES

1. Intelligent motion control of luminaires based on occupancy.
2. The double hinge structure allows users to aim the sensor in any position they want.
3. Can be mounted on a canopy or on a lighting fixture.
4. Built-in adjustable timer allows automatic shut off after the sensor coverage area is vacated. Maximum time delay is 5 minutes, minimum is 5 seconds.
5. Designed for outdoor (wet location) or indoor application. Recommended ambient temperature is -20°C (-4°F) to 50°C (122°F).

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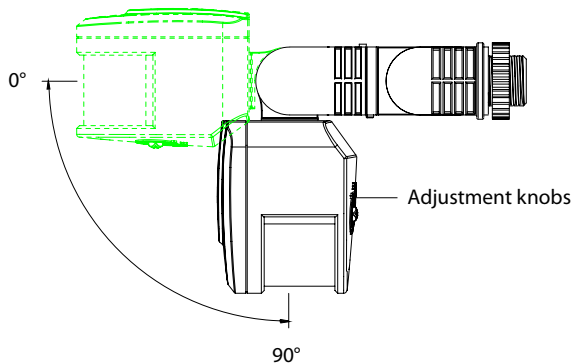
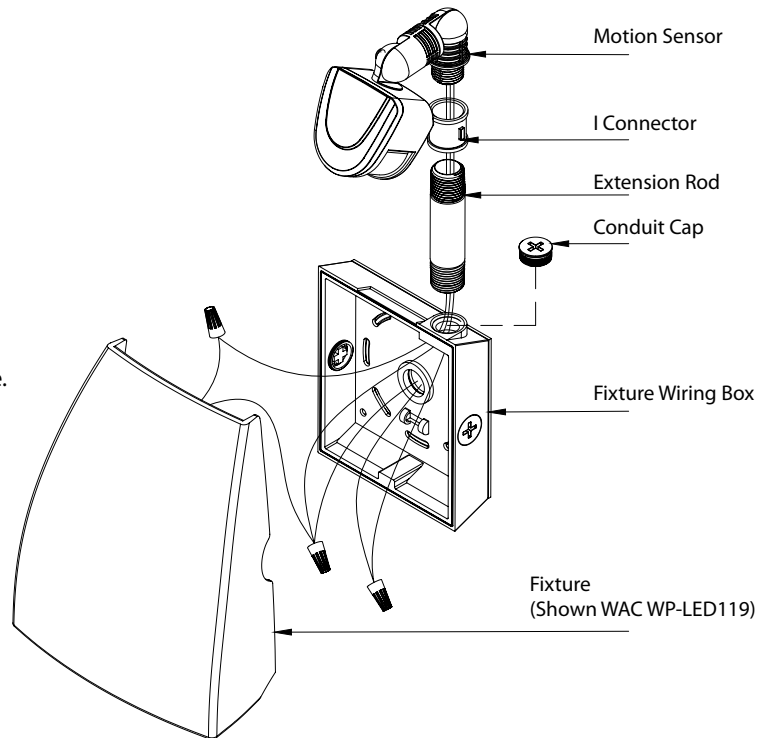
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### INSTALLATION AND WIRING

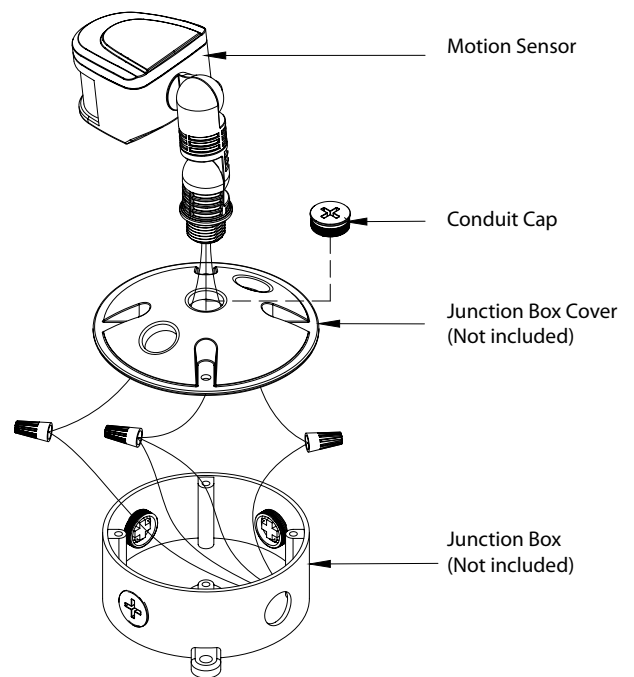
#### INSTALLATION ON A FIXTURE

1. Remove the conduit cap from the fixture.
2. Connect the cables to the terminal block or wire connector inside the wiring box of the fixture. Refer to the wiring diagram on **p.3**. Ensure that all the connections are secure.
3. Screw in and lock the sensor head in position. Use thread seal tape to ensure proper sealing of the unit.
4. Use the extension kit if necessary to achieve the desired detection pattern. Remove the locking nut upon convenience.
5. Tighten and seal all the other conduit caps of the fixture with thread seal tape.
6. To make the installation water tight, make sure that the LUX and TIME adjustment knobs always face down and the sensor head stays within 0 and 90 degrees.



#### INSTALLATION ON A CANOPY

1. Remove the conduit cap of the junction box or mounting canopy.
2. Connect the cables to the terminal block or wire connector inside the junction box. Refer to the wiring diagram on **p.3**. Ensure that all the connections are secure.
3. Screw in and lock the sensor head in position. Use thread seal tape to ensure proper sealing of the unit.
4. Use the extension kit if necessary to achieve the desired detection pattern.
5. Tighten and seal all the other conduit caps on the fixture with thread seal tape.
6. To make the installation water tight, make sure that the LUX and TIME adjustment knobs face down at all times.



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## Motion Sensor

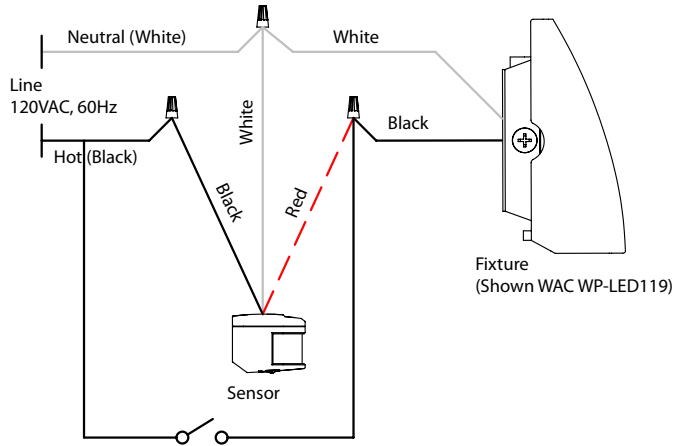
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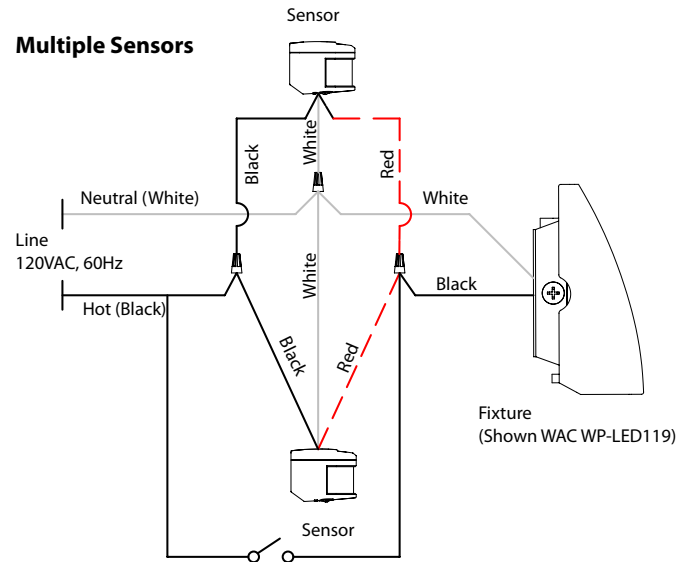
### WIRING DIAGRAM

#### Single Sensor



\*Optional Switch\* (Not Provided)

#### Multiple Sensors



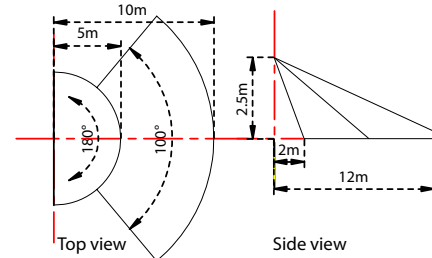
\*Optional Switch\* (Not Provided)

\*Optional switch (by others): For manual on capability, add a conventional on/off switch or circuit breaker.

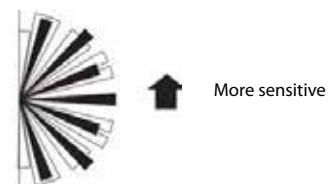
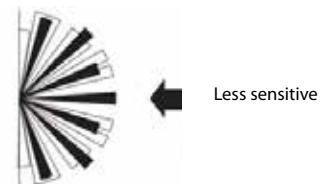
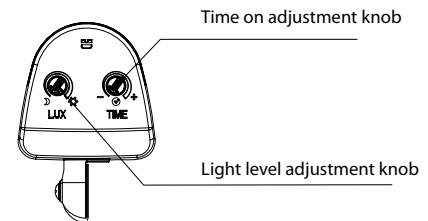
### OPERATION AND TESTING

#### WALKING TEST:

This test allows the user to establish the detection pattern and choose the best position for the sensor. Adjust the sensor to point in the desired direction by rotating the unit from left to right and up to down. See the sensitivity patterns of the sensor to achieve the desired results.



1. Set the two adjustment controls on the bottom of the sensor to the following positions:  
**TIME** - Fully anti-clockwise (left hand dial);  
**LUX** - Fully clockwise (right hand dial);
2. The unit will now operate during daytime as well as at night, illuminating the lamp for approximately 5 seconds each time. Switch on the mains power. The lamp will immediately illuminate as the unit goes through its "warm-up" period. After approximately 1 - 2 minutes the lamp will extinguish. Remain outside the detection area during the warm-up period.
3. Walk across the detection area approximately 16 feet from the unit. As you cross a detection "zone" the lamp will illuminate. Now stand still until the lamp extinguishes. This should take approximately 5 seconds.
4. Start moving. As you cross each "zone" the lamp will illuminate. Repeat the above, walking at various distances and angles to the unit. This will help you to establish the detection pattern.



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### AUTOMATIC OPERATION:

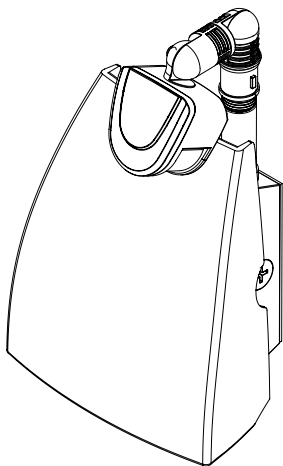
When walk tests are complete, the unit can be switched to automatic operation.

1. The **TIME** setting controls how long the unit remains illuminated following activation & after all motion ceases. The minimum time (fully anti-clockwise) is approximately 5 seconds and the maximum time (fully clockwise) is approximately 5 minutes. Set the control to the desired setting between these limits.
2. The **LUX** setting determines the level of darkness required for the unit to start operating. The setting is best achieved by the procedure below:

Set the **LUX** control knob fully anti-clockwise. The unit will now start operating at dusk. If you require the light to activate earlier, wait until the ambient light level reaches the level of darkness at which you wish the lamp to become operative, slowly rotate the control in a clockwise direction until a point is reached where the lamp illuminates. Leave the control set at this point. At this position, the unit should become operative at approximately the same level of darkness each evening.

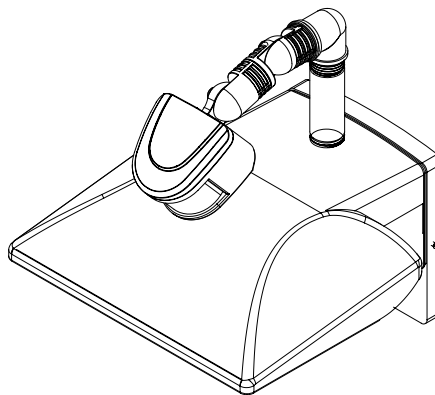
Observe the operation of the unit. If the unit is starting to operate too early (e.g. when it is quite light), adjust the control slightly anti-clockwise. If the unit starts to operate too late (e.g. dusk), adjust the control slightly clockwise. Continue to adjust until the unit operates as desired.

**MS-120 is compatible with the following WAC Outdoor Products:**



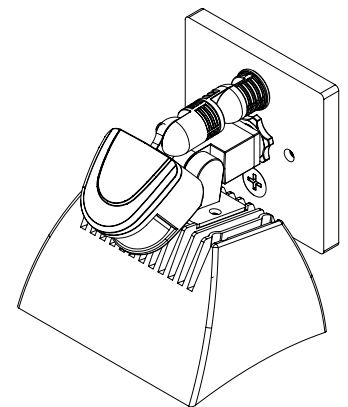
#### Endurance FIN

WP-LED119  
WP-LED127  
WP-LED135



#### Endurance HAWK

WP-LED219  
WP-LED227



#### Endurance FLOOD

WP-LED335

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### TROUBLESHOOTING GUIDE

PROBLEM	SOLUTION
Lamp stays ON all the time at night. PIR keeps activating for no reason / at random.	<p>The unit may be suffering from false activation. Cover the sensor lens completely with a thick cloth. This will prevent the sensor from “seeing” anything. If the unit now switches off after the set time duration and does not re-activate, this indicates that the problem was caused by false activation.</p> <p>The problem may be solved by slightly adjusting the direction/angle of the sensor head (see previous section). You may not be allowing the unit time to complete its warm-up period. Stand well out of the detection range and wait (the warm-up period should never exceed 5 minutes). Occasionally, winds may activate the sensor. Sometimes, passages between buildings etc. may cause a “wind tunnel” effect. Ensure the unit is not positioned so as to allow detection of cars/people using public thoroughfares adjacent to your property.</p>
PIR sensor will not operate at all.	Check that the power is switched ON at the circuit breaker/internal wall switch. Turn OFF the power to the unit and check the wiring connections as per the diagram (see previous section). Ensure no connections are loose. Check the lamp. If the lamp has failed, replace. Ensure that the lamp is functioning normally.
The PIR sensor will not operate at night.	The level of ambient light in the area may be too bright to allow operation at the current DUSK setting. During the hours of darkness, adjust the DUSK control slowly clockwise until the lamp illuminates. Refer to previous section for more details.
Unit activates during the daytime.	The level of ambient light in the area may be too dark for the current DUSK setting. During daylight, adjust the DUSK control slightly anti-clockwise. When the lamp extinguishes, enter the detection area. If the unit still activates, the setting is still too high. Repeat the above procedure until the unit does not activate when you enter the detection area. Refer to previous section for more details.
PIR coverage is poor or sporadic.	Unit may be poorly located. See previous section. Select the location and re-locate the unit.
Detection range varies from day to day.	PIR sensors are influenced by climatic conditions. The colder the ambient temperature, the more effective the sensor will be. You may need to make seasonal adjustments to the sensor head position to ensure trouble-free operation all year round.

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