



## Motion Sensor Cheat Sheet

The motion sensor is a key component of your security system and proper setup and adjustment must be performed to have a reliable system – one that consistently detects all human motion in a defined area without generating false alarms. This takes some effort but is well worth it and only must be accomplished once.

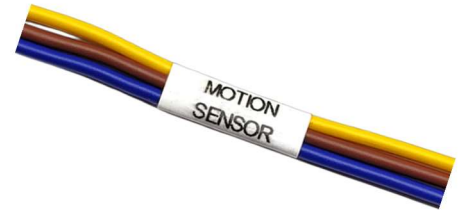
The Dual Technology PIR/Microwave motion sensor has an angular detection of about 120 degrees with a max range of about 30ft. It's ideal location would be mounted where it will have full view of the bimini or salon area (facing aft) with the most cross traffic motion for detection (PIR motion sensors work best with cross traffic and are least effective with detecting a straight on approach).

Please take time to review the directions provided with your motion sensor. That said here are some helpful hints.

### Part I - Wiring:

Locate the bundle of wires labeled "MOTION SENSOR" coming out of the Control Box:

- Brown = Positive (+)
- Blue = Negative (-)
- Yellow = Signal



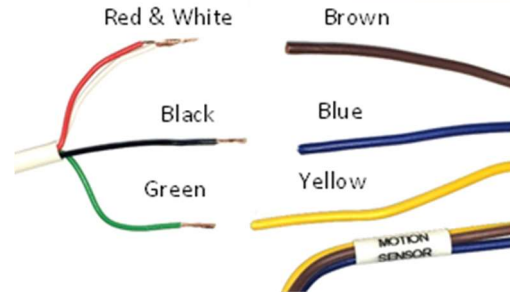
Use 22 or 20AWG stranded **SHIELDED** copper wiring to extend wire to motion sensor mounting location.

**Step 1:** Remove circuit board from housing by removing set screw and releasing retaining clips.

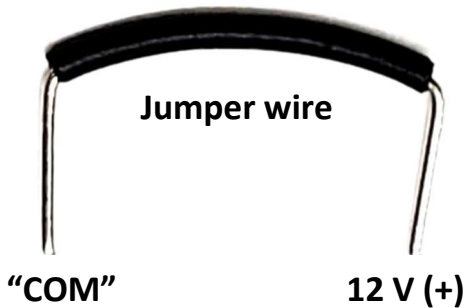


**Step 2:** Route alarm wires through the mounting bracket and into the base of the housing. If you are using 4-wire conduit alarm wire, join two of the wires to the Brown (+) wire from the control box and attach one to the “12v (+)” terminal on the motion sensor and the other power wire to the “COM” terminal.

Attach mounting bracket using provided screws and replace board.



**Step 3:** If you are using a three-wire conduit it will be necessary to use a jumper wire between the power “12v (+)” and the “COM” on the motion sensor terminal block.



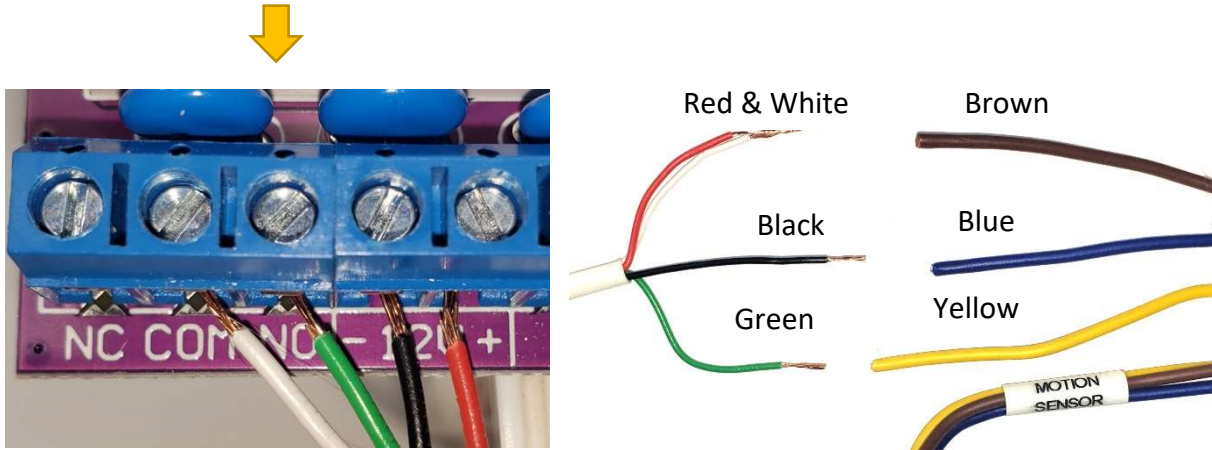
**Step 4:** Wire Alarm Signal Wire to the “NO” terminal.



**Step 5:** Wire Power and Ground to (+) and (-) respectively.



To Look like this:



## Part II - Testing Sensor Adjustments:

There are three internal and one external adjustment to set on your motion sensor:

1. Sensitivity – High or Low (this affects BOTH PIR and Microwave sensors)
2. Dial adjustment – affects Microwave only
3. Height adjustment – effects PIR sensor only
4. External adjustment – Changing the way the sensor is facing on the mounting bracket (up/down – left/right)

**Adjusting Sensitivity:** Sensitivity is set by the DIP switch #4

- All DIP switches should be in the down position to start



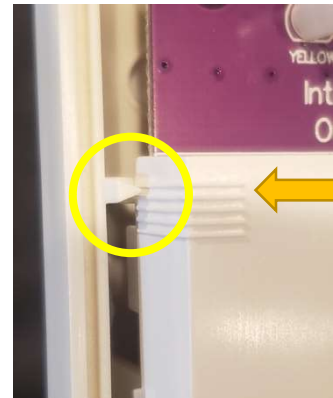
**Adjusting Microwave Dial Adjustment:**

- Start with the dial tuned all the way counterclockwise (it's lowest setting)
- Cover the PIR sensors with painter's tape and "walk in" the test pattern shown in the sensor's instructions while watching for the Green LED to indicate satisfactory microwave detection coverage.
- Turn up the dial slowly until the desired area is covered by the sensor.



**Circuit Board Height Adjustment:** This must be tested while the cover is on.

- Remove painter's tape
- In general, the higher the reference arrow is on the bars – the greater the range of the PIR sensor. However, this is also affected by the height the sensor is mounted at. We recommend the arrow is pointed to the top of the scale to begin with. If the sensor has too much range, then reset the arrow to a lower location.
- Walk the test pattern shown in the *sensor's instructions* while watching for the Yellow LED on the Left to indicate satisfactory PIR detection coverage.



**External adjustment:** The last adjustment is the actual position that the sensor is facing.

This adjustment can be easily made and you may develop different ideal positions for dock side and mooring environments.