

Wide-Angle Motion Sensor Installation

Prior to use, the tri-tech passive infrared (PIR) / microwave, wide-angle motion sensor and bracket must be installed onto a Model 14-1 Sound Cannon's barrel and plugged into the internal module electrical connector. The following steps outline the installation procedure:

1. Mount the Model 14-1 cannon on its tripod as outlined in your User's Manual. Ensure that the cannon is powered off and the propane tank is disconnected.
2. Loosen the two large worm-drive clamps on the motion sensor bracket and slide them onto the cannon's barrel taking care to protect the yellow visibility decal and powder-coated finish.
3. Position the bracket vertically oriented and 3-4" in front of the tripod barrel clamp.
4. Tighten both clamps with a 5/16" hex driver or flat screwdriver until secure, but without causing the base of the bracket to warp.
5. Remove the cannon's top shroud and disconnect the negative battery terminal.
6. Gently lift the black electronics bay dust cover by first pushing it in at the bottom.
7. Route the motion sensor's electrical harness through the cannon's module wiring orifice after removing the knockout plug (Fig. 1), and ensure the harnesses' gray orifice plug is firmly seated.
8. Connect the motion sensor's 4-pin male electrical connector to the cannon's matching 4-pin female electrical connector (Fig. 2, circled in green).

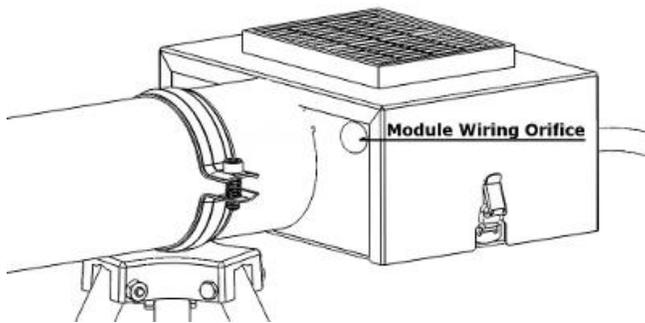


Figure 1

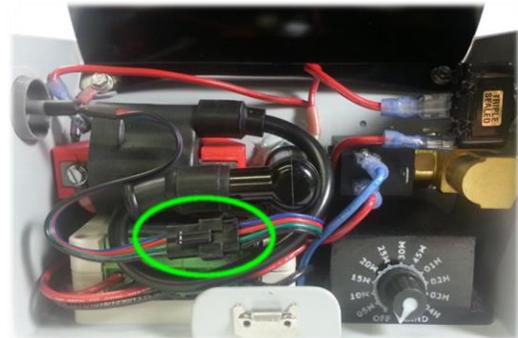


Figure 2

9. Close and secure the dust cover, re-connect the battery terminal, and replace the top shroud.
10. Position cannon facing toward the target area, and power on. Allow 2 minutes to pass without any motion in the coverage radius for the sensor to acquire the background landscape before introducing targets.
11. Although exhaustive testing has been conducted to ensure maximum sensor accuracy, occasional false positives are unavoidable—especially during daylight hours when thermal conditions are more variable.



**Figure 3 – Installed
Wide-Angle Sensor**

Wide-Angle Motion Sensor Configuration

The wide-angle motion sensor is factory configured for maximum *reliable* sensitivity and 24 hour operation, which should provide the best results for most applications. The sensor's settings can, however, be adjusted to meet the needs of unique environmental conditions. Any problems resulting from configuration changes are the user's sole responsibility. In order to make adjustments, the sensor must be removed from the cannon mounting bracket and opened according to the following steps:

1. Power down cannon and remove the motion sensor and bracket.
2. Cut the upper zip tie taking care not to damage the wire's insulation.
3. Press down firmly to slide the sensor off of the bracket's retaining clip.
4. Once free, remove the 4 small screws from the back of the sensor body.
5. Separate the front cover to reveal the sensor circuit board (Fig. 4):

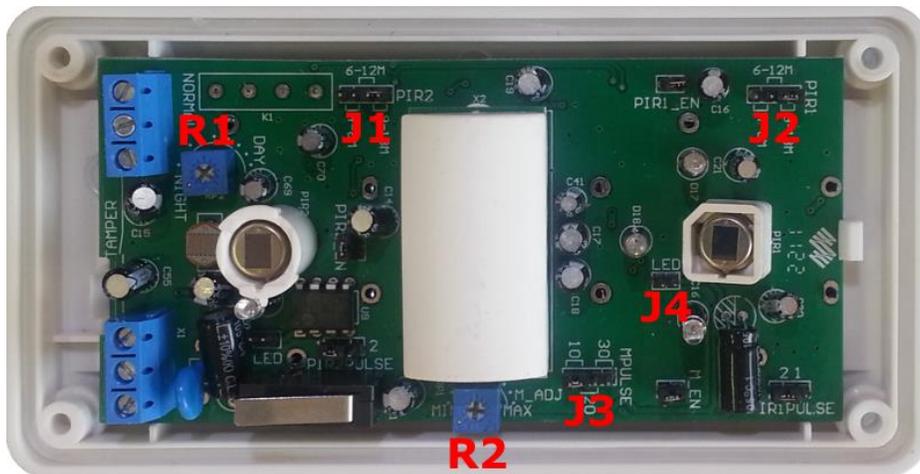


Figure 4

Sensitivity Adjustment

The following steps are **only** necessary if you wish to reduce the motion sensor's sensitivity due to false positive activation or to respond only to larger targets. It may be helpful to enable the alarm LEDs (disabled for power conservation by default) when testing sensitivity changes by closing J4 (Fig. 4). LED colors correspond to the following sensor states: Green = top and / or bottom PIRs, Yellow = Microwave, Red = Both top and bottom PIRs and microwave.

Passive Infrared (PIR) Sensitivity

1. Move J1 and J2 (Fig. 4) to the desired sensitivity (Fig. 5). Factory default is for maximum sensitivity.
2. Configuration for J1 and J2 should be set to the same sensitivity to reduce false positive activations.

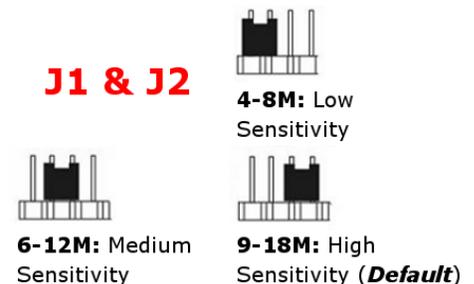


Figure 5

Microwave Sensitivity

1. To adjust the microwave sensor's range, rotate R2 (Fig. 4) counterclockwise to decrease, and clockwise to increase (Fig. 6).
3. Move J3 (Fig. 4) to the desired sensitivity (Fig. 6). Factory default is for maximum sensitivity.

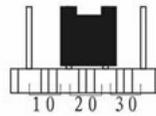
R2



Range (R2)

Left (CCW): Short
Right (CW): Long

J3



Sensitivity (J3)

30: Low
20: Medium
10: Max (**Default**)

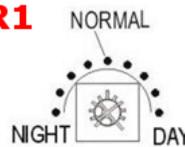
Figure 6

Mode Adjustment

The following steps are **only** necessary if you wish to alter the motion sensor's time of operation.

1. Adjust R1 (Fig. 4) to the desired hours of operation (Fig. 7). Factory default is for 24 hour operation.

R1



Operation (R1)

DAY: 24 hour (**Default**)
NORMAL: Dusk to dawn
NIGHT: Nighttime only

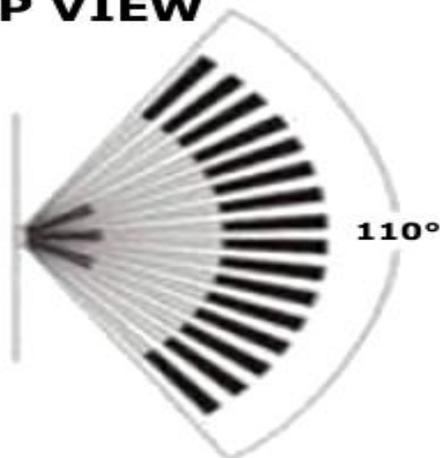
Figure 7

Wide-Angle Motion Sensor Specifications

Sensor Technology:	Tri-Tech Dual Passive Infrared / Microwave
Detection Range:	50 Feet (15M)
Detection Angle:	110 Degrees
Initialization Delay:	120 Seconds
Microwave Frequency:	3.2 GHz
Anti- White Light Interference:	> 1000000 Lux
Working Temperature:	-40°C (-40 °F) – 65°C (150°F)
Temperature Compensation:	Automatic Hyperbolic
EMI Resistance:	> 30 V/M
Working Voltage:	9 – 13.5 VDC
Power Consumption:	18 mA

Wide-Angle Motion Sensor Coverage Range and Angle Diagram

TOP VIEW



SIDE VIEW



Figure 8