

Long-Range Motion Sensor Installation

Prior to use, the long-range 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 valve is closed.
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).

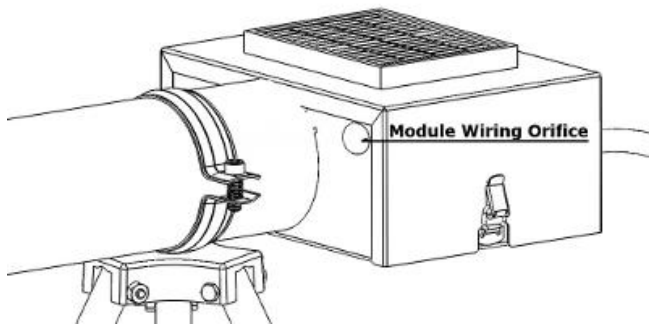


Figure 1

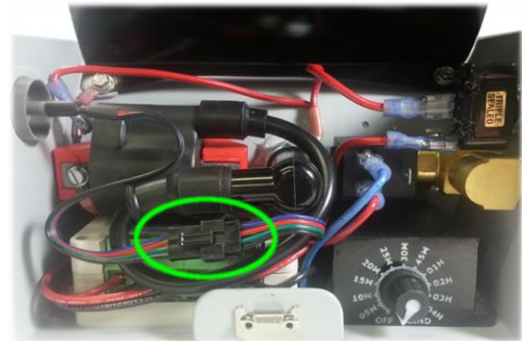


Figure 2

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
Long-Range Sensor**

Long-Range Motion Sensor Configuration

The long-range motion sensor is factory configured for maximum sensitivity and 24 hour operation, which should provide the best results for most applications. The sensor's settings can, however, be adjusted by the user to meet the needs of unique environmental conditions. 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, close propane gas valve and disconnect propane tank.
2. Remove the front cover of the long-range sensor (Fig. 4)
 - a. Loosen the two fixing screw.
 - b. Pull bottom of cover outward.
 - c. Slide cover downward to release hooks.

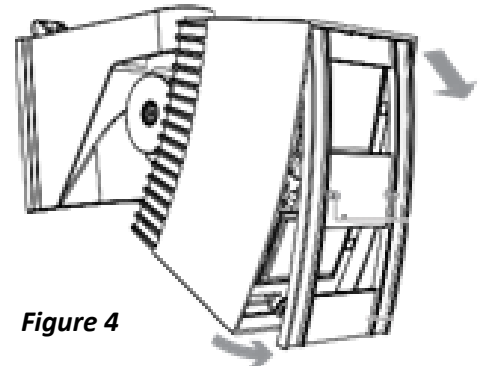


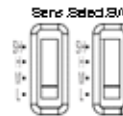
Figure 4

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. Inside the front cover, locate the two Far and Near area "Sens. Select" switches (Fig. 5, Green Circle).



Figure 5



SELECTOR POSITION	FUNCTION
SH (Factory default)	Suitable for sites requiring a level of sensitivity higher than "H"
H	Suitable for sites requiring a level of sensitivity higher than "M"
M	Suitable for standard applications
L	Suitable for hostile and narrow area

Figure 6

1. Adjust the Near and Far switches to the desired sensitivity according to the table show in Fig. 6. Factory default is for maximum sensitivity.

Logic Adjustment

The long-range motion sensor includes two separate PIR sensors. The default configuration is to require *both* sensors to activate (AND logic) before firing. Sensor sensitivity can be increased by responding to activation of either sensor independently (OR logic) at the risk of increasing the number of false positives. The following steps are **only** necessary if you wish to alter the motion sensor's logic from AND to OR. Inside the front cover, locate the logic adjustment dip switches (Fig. 5, Red Circle).

1. Adjust SW1 to the desired mode of logic operation according to the table shown in Fig. 7.
Factory default is for AND logic.



Figure 7

SELECTOR POSITION	STATUS	FUNCTION
UP	OR	A sensor signal is output when an object is detected in either of the two detection areas. * Use this mode when you adjust the detection area. Switch to AND mode after you have finished the detection area adjustment.
DWN	AND (factory default)	Use this mode to reduce instances of incorrect detection of objects. The sensor signal is output only when an object is detected within the two detection areas. If any objects are blocking multiple detection areas, use OR mode.

Long-Range Motion Sensor Specifications

Sensor Technology:	Synthesized Intelligent Passive Infrared
Detection Range:	130 Feet (40M)
Detection Angle:	~22.5 Degrees Near / ~15 Degrees Far
Initialization Delay:	120 Seconds
Working Temperature:	-25°C (-13 °F) – 60°C (140°F)
Working Voltage:	2.5 – 10 VDC
Power Consumption:	40 µA (standby) / 5 mA (operating)
IP Rating	IP65
Weight	1.4kg (50oz)

Long-Range Motion Sensor Coverage Range and Angle Diagram

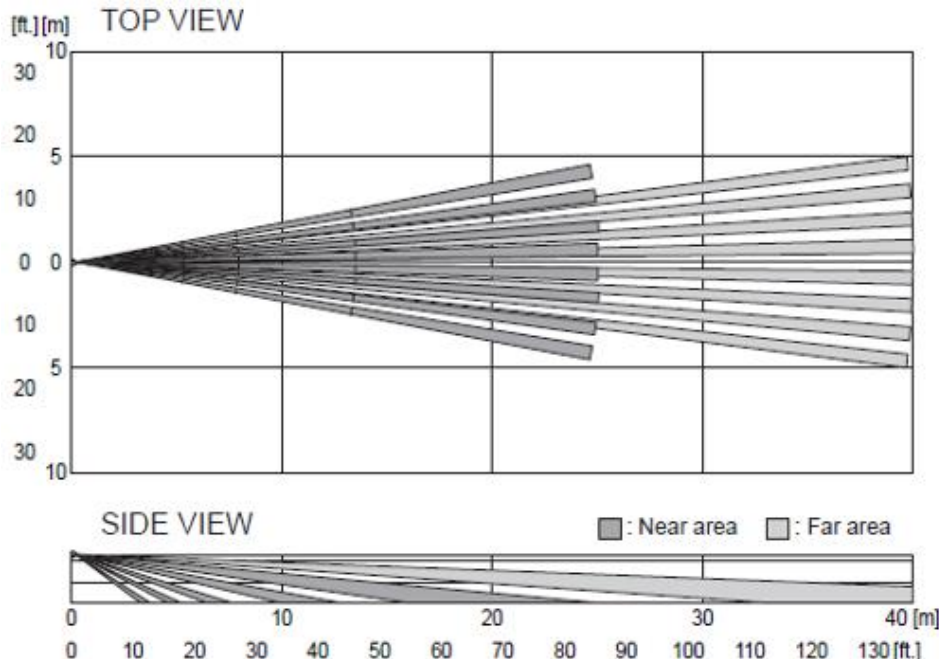


Figure 8