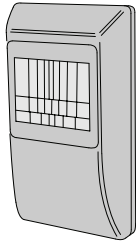


TMD-90

SUPERVISED WIRELESS PASSIVE INFRARED MOTION DETECTOR

Installation Instructions



Linear

(760) 438-7000 • FAX (760) 438-7043
USA & Canada (800) 421-1587 & (800) 392-0123
Toll Free FAX (800) 468-1340

DESCRIPTION The TMD-90 is a passive infrared (PIR) motion detector with a built-in supervised, digitally-coded radio transmitter designed for security applications.

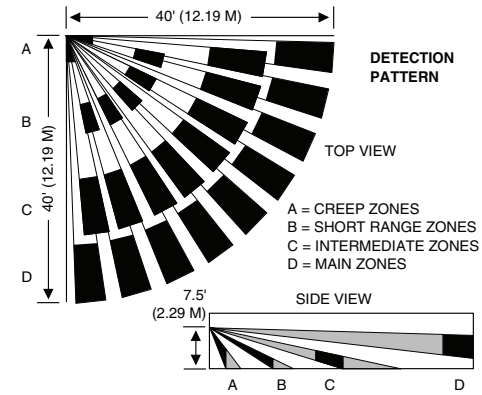
The PIR detects motion in its detection pattern by measuring the infrared emission levels of objects that it "sees". If the infrared levels change quickly, as when a person moves across the detection pattern, the PIR will recognize the change as an intrusion.

A selectable "pulse count" circuit controls the PIR's triggering of the transmitter. As a person moves across the detection pattern, the PIR registers one pulse as each "finger" of the detection pattern is crossed. The TMD-90 counts these pulses. When the selected number of pulses occur during the selected time, the PIR will trigger the transmitter, sending an alarm signal. A lockout timer prevents the transmitter from triggering more often than once every 2 minutes when constant motion is detected. The pulse counting and timing options are selected with the OPTION switch.

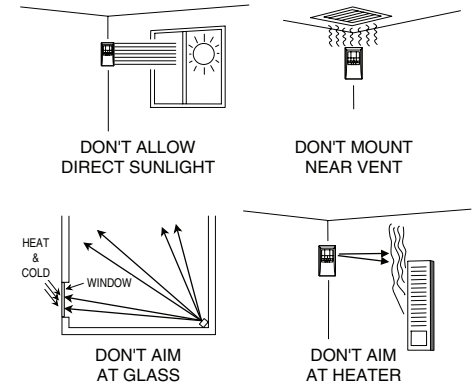
The unit is supervised for low battery, alarm and status reporting. **The TMD-90 is compatible with any Linear SX format supervised security receiver.** The transmitter sends hourly status reports. A test report can be sent by pressing the test button.

Coding switches are not required or used in this transmitter. Each transmitter is pre-coded at the factory to a unique code. With the SX format, there are more than sixteen million codes possible.

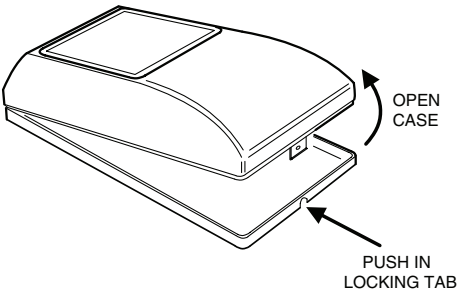
The transmitter is powered by four Duracell "AA" MN1500 1.5-volt alkaline batteries (included) and can power the unit for up to 5 years. When the battery voltage gets low, a low battery report is sent to the receiver with any alarm, test or status report.



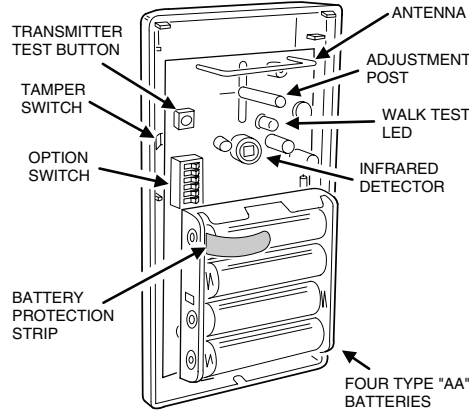
INSTALLATION TIPS



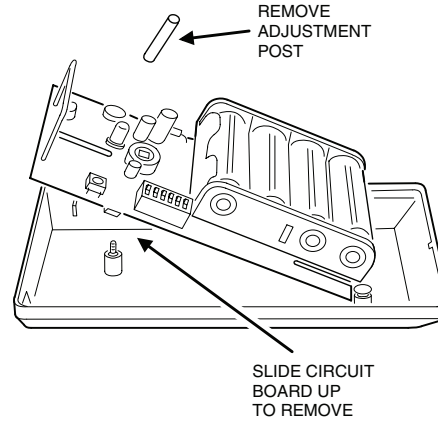
STEP 1 Open detector case. Press in the locking tab and remove the case cover.



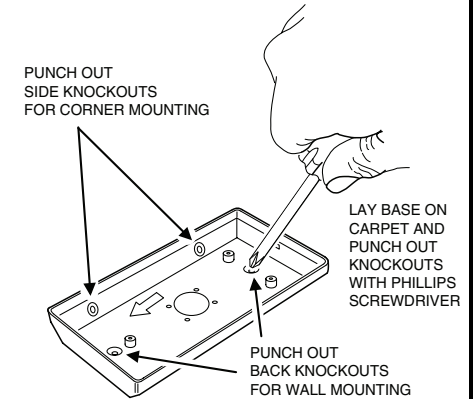
STEP 2 Identify components. Examine the unit to identify the various components.



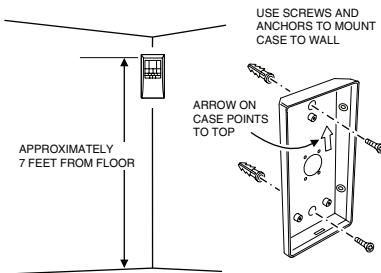
STEP 3 Remove circuit board. Remove the adjustment post and remove the circuit board.



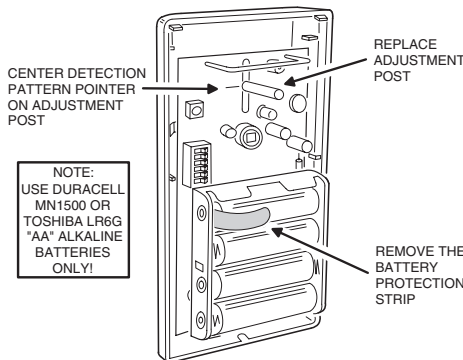
STEP 4 Punch out knockouts. Use a small Phillips screwdriver to punch out the desired case mounting knockouts.



STEP 5 Mount case. Attach the case to the wall using the screws and screw anchors provided. **Mount the detector in a location where the intruder's path will likely cross the detection pattern beams.**



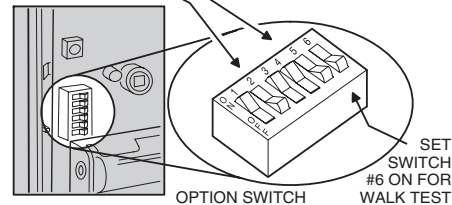
STEP 6 Replace board. Replace the circuit board and install the adjustment post. Center the detection pattern pointer. Remove the battery protection strip.



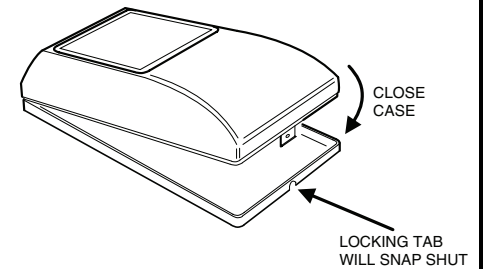
NOTE: USE DURACELL MN1500 OR TOSHIBA LR6G "AA" ALKALINE BATTERIES ONLY!

STEP 7 Set option switches. Set the option switches to select the number of pulses and time frame for alarm. Set switches 2 & 5 ON, 1, 3 & 4 OFF. **Set switch #6 ON to select walk test mode.**

| SWITCHES 1, 2 & 3 SET NUMBER OF PULSES | | | SWITCHES 4 & 5 SET TIME THAT PULSES MUST OCCUR | |
|---|-------|--------|---|-------|
| 2 PULSES | #1 ON | #2 OFF | #4 8 SECONDS | #5 ON |
| 3 PULSES | OFF | ON | 16 SECONDS | OFF |
| 5 PULSES | OFF | OFF | 32 SECONDS | OFF |



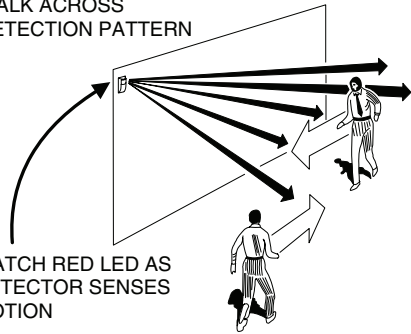
STEP 8 Replace cover. Replace the case cover. Press the bottom edge until the locking tab engages.



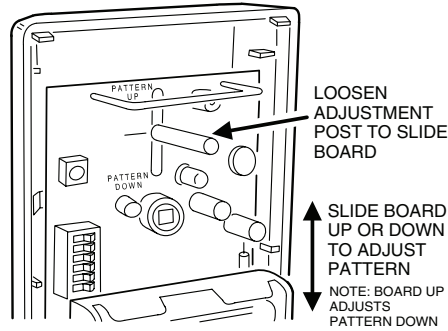
STEP 9 Walk test. Walk test the unit by walking across the detection pattern from both sides. The red LED should light as you cross each detection pattern "finger". (Alarm transmissions will occur in walk test.)

WALK ACROSS
DETECTION PATTERN

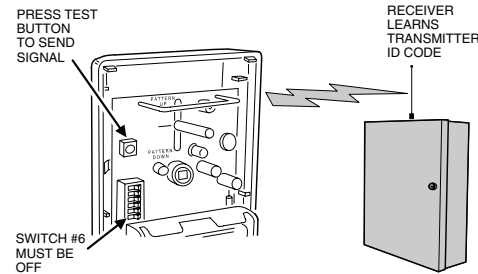
WATCH RED LED AS
DETECTOR SENSES
MOTION



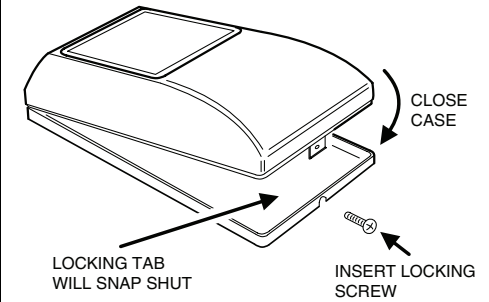
STEP 10 Adjust detection pattern. If the detection pattern is too high or low, loosen the adjustment post and slide the circuit board up or down.



STEP 11 Program transmitter into receiver. Refer to the instructions supplied with the supervised receiver to program the TMD-90 as a non-restoring PIR sensor. Turn the walk test switch (#6) OFF. Press the TEST button to cause the unit to send a signal. **The TEST button will not send a valid signal if the unit is in walk test (switch #6 ON).**

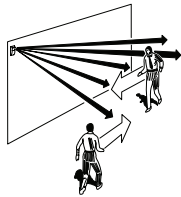


STEP 12 Replace and lock cover. Replace the unit's cover and secure it with the locking screw.



STEP 13 System test. Place the receiver into a sensor test mode. **Stay out of the detection pattern of the PIR for at least 4 minutes** then walk across the detection pattern. The receiver should indicate that the signal was received.

WAIT AT LEAST 4 MINUTES BEFORE
WALKING ACROSS THE DETECTION PATTERN!

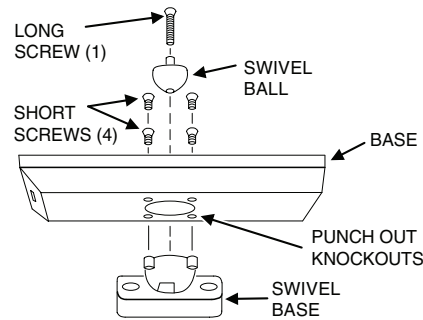


AFTER WAITING, WALK
ACROSS DETECTION
PATTERN

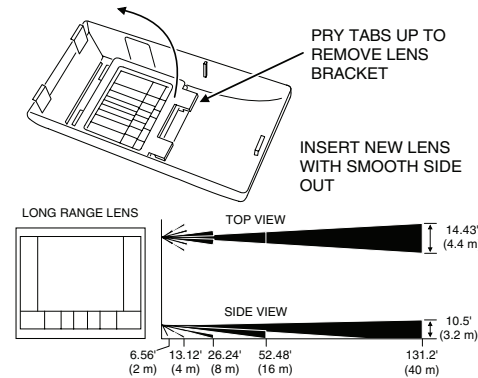


SYSTEM IN TEST MODE
SHOULD BEEP AS ALARM
SIGNAL IS RECEIVED

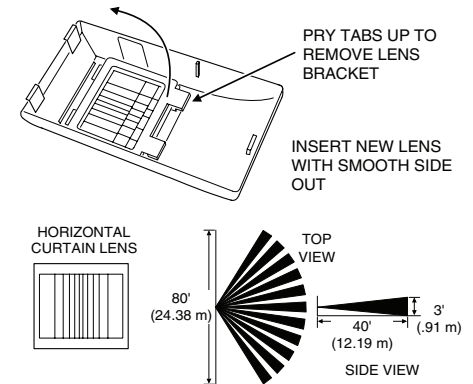
Optional Swivel Mount An optional swivel mount is supplied for mounting the TMD-90 to a wall in special situations. Refer to the figure for details on attaching the swivel mount to the case (swivel mount must be assembled first).



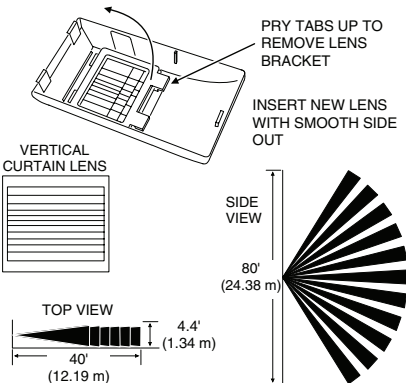
Optional Long Range Lens See the figure for changing supplied lenses. **Do not set the pulse count for more than 2 pulses when using the long range lens.**



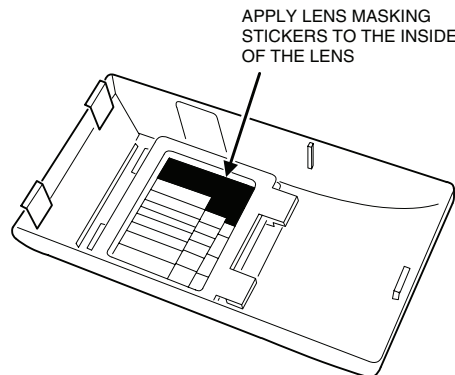
Optional Horizontal Curtain Lens See the figure for changing supplied lenses.



Optional Vertical Curtain Lens See the figure for details on changing lenses.



Optional Lens Masks Adhesive stick-on labels are provided to mask unwanted detection areas of each lens. Apply the labels to the **inside** of the lens.



SPECIFICATIONS

DETECTOR: Balanced dual-element pyro electric
LENS: Aspheric fresnel lens with 24 facets, 9 main, 8 intermediate, 5 short, 2 creep 40 x 40 feet (12.2 x 12.2 M)

DETECTION PATTERN: Installer adjustable up and down
VERTICAL ADJUST: Selectable pulse count (2, 3 & 5 pulses)
SIGNAL PROCESSING: Pulse window (8, 16 & 32 seconds)

POWER REQUIREMENTS: Four type "AA" MN1500 batteries
Operating: 12 mA maximum
Standby: 15 uA maximum

LED: Extra bright for walk test
RF ENCODING: Linear SX format (A1D PPM @ 200 bps)

NUMBER OF CODES: 16,777,216

TAMPER SWITCH: Switch linked to case cover

SHIELDING: Metal shielding for maximum RF/EMI immunity
OPERATING TEMPERATURE:

+32° to +122° F

(0° to +50° C)

DIMENSIONS: 5.75" high x 3.25" wide x 1.75" deep

COLOR: Cool Gray 1C

MOUNTING: Wall, corner or swivel

LINEAR LIMITED WARRANTY

This Linear product is warranted against defects in material and workmanship for twelve (12) months. The Warranty Expiration Date is labeled on the product. **This warranty extends only to wholesale customers** who buy direct from Linear or through Linear's normal distribution channels. **Linear does not warrant this product to consumers.** Consumers should inquire from their selling dealer as to the nature of the dealer's warranty, if any. **There are no obligations or liabilities on the part of Linear LLC for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation.** All implied warranties, including implied warranties for merchantability and implied warranties for fitness, are valid only until Warranty Expiration Date as labeled on the product. **This Linear LLC Warranty is in lieu of all other warranties express or implied.**

All products returned for warranty service require a Return Product Authorization Number (RPA#). Contact Linear Technical Services at 1-800-421-1587 for an RPA# and other important details.

Linear radio controls provide a reliable communications link and fill an important need in portable wireless signalling. However, there are some limitations which must be observed.

- * For U.S. installations only: The radios are required to comply with FCC Rules and Regulations as Part 15 devices. As such, they have limited transmitter power and therefore limited range.
- * A receiver cannot respond to more than one transmitted signal at a time and may be blocked by radio signals that occur on or near their operating frequencies, regardless of code settings.
- * Changes or modifications to the device may void FCC compliance.
- * Infrequently used radio links should be tested regularly to protect against undetected interference or fault.
- * A general knowledge of radio and its vagaries should be gained prior to acting as a wholesale distributor or dealer, and these facts should be communicated to the ultimate users.

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