INSTALLATION INSTRUCTIONS

The Smallest Digital, Curtain-Type Infra-red Detector

INTRODUCTION

The 461 is the smallest and most elegant curtain-pattern PIR detector, designed for adjustment-free easy installation. Its function is based on new, patented digital signal processing. Detailed coverage patterns and mounting alternatives are given in Figures 2 through 6 below.

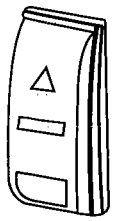

Figure 1. General View

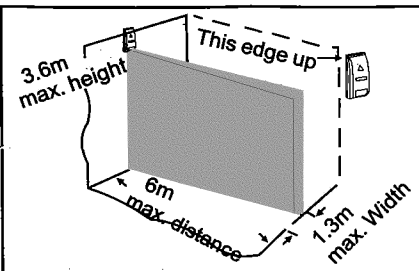

Figure 2. Wall-Mount Curtain

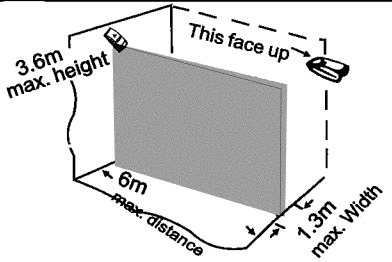

Figure 3. Ceiling-Mount Curtain

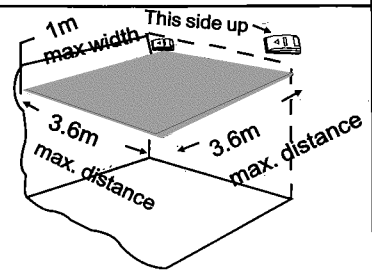

Figure 4. Overhead Curtain

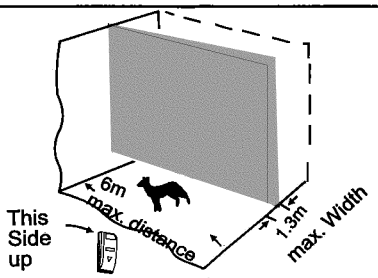

Figure 5. Curtain/Pet Alley

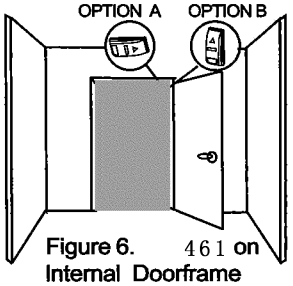

Figure 6. 461 on Internal Doorframe

SPECIFICATION

OPTICAL

Number of Curtain Beams: 2

Mounting Positions: See Figures 2 through 6.

Mounting Height: Up to 3.6m.

Range: 6 meters

ELECTRICAL

Voltage: 10 to 16 VDC.

Current Drain: About 12.5mA at 12VDC.

Alarm Output: Solid-state relay, N.C., Up to 100mA/ 30V, approx. 18 ohms internal resistance. Circuit opens upon alarm.

Tamper Output: N.C., rated at 50mA resistive/ 30VDC.

Alarm Duration: 3 seconds.

LED: Walk test enabled or disabled with jumper link.

Detector: Dual-element low noise pyroelectric sensor.

ENVIRONMENTAL

Operating Temperature: -10℃ to 50℃

Storage Temperature: -20℃ to 60℃

RFI Protection: >20V/m to 1000MHz.

PHYSICAL

Dimensions(H×W×D): 70 ×28×25mm.

Weight: 25g.

Color: White.

INSTALLATION

Disassembly and Assembly

1. Removing the Front Cover

Insert a small screwdriver into one of the narrow gaps at the sides of the name plate (see Fig. 7). Lever carefully sideways, until the name plate arches slightly out and snaps free (do not let it fly off). Retain the name plate and loosen the screw within the inner shaft (see Fig. 8). Remove the cover carefully, to avoid dropping the screw.

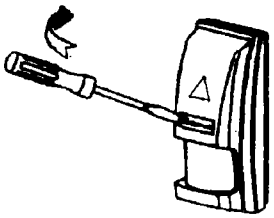

Figure 7. Name-Plate Removal

2. Installing the Front Cover

Carefully fit the front cover onto the base, with the lens in front of the sensor, insert the screw into its shaft and tighten it well. Position the name plate correctly, and insert one of the tabs into its groove. Press the free edge sideways against the already seated edge, until the name plate arches slightly outward. Then force the other tab into its groove, and let the name plate snap into place.

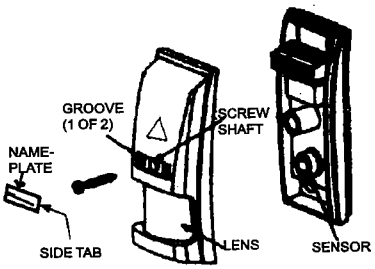

Figure 8. Disassembly

Mounting

The 461 may be mounted in various positions on walls, ceilings and door frames (see Figure2 to 6).

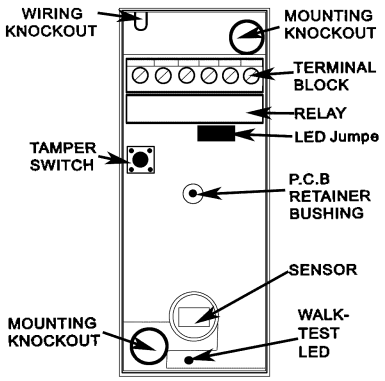

Figure 9. Inside the 461

CAUTION! To prevent false alarms caused by external temperature changes and sudden air guests, detectors should not be mounted on or within window frames built into external walls. Moreover, it is mandatory to seal the wiring entry holes with sealing compound such as RTV, thus protecting the sensor from insects and air currents.

1. Select the mounting location so that the expected motion of an intruder will cross the curtain beams.
2. When mounting on the ceiling (Figure 3), the ceiling height must not exceed 3.6m. The maximum detection distance is 6m,and the curtain width at that distance is 1.0m.
3. To minimize false alarms, it is advisable to avoid aiming the detector at heaters, sources of light, or windows subjected to direct sunlight. Also avoid running wiring close to high power electrical cables.
4. Remove the front cover as Figure 7 .
5. Mount the base with the PCB at the location and height that gives optimum coverage. Use the two mounting knockouts (see Fig. 9).
6. Always install the unit on a firm and stable surface.

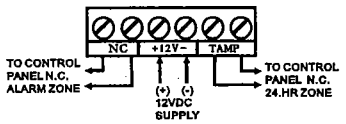

Fig 10. Terminal Block Wiring

Wiring

To route wires into the detector, use the wiring knockout located at the top left of the unit base (Figure 9). Since the knockout is angular, the wiring may be inserted from behind the base or from the top, as required for the particular installation. Refer to Fig. 10 and connect wires to the terminal block in the following order:

1. Connect terminals TAMP (the tamper N.C. terminals) to a normally closed 24-hour protective loop of the control panel. The tamper contacts will open when the cover is removed.
2. Connect terminals NC (the relay N.C. terminals) to a normally closed zone input loop of the control panel. This alarm output circuit will open when motion is detected or during power loss.
3. Connect terminals +12V- to a 10 to 16 Volt DC power source (make sure polarity is correct). The power supply must have battery backup. The current drain of each unit is approximately 12.5mA.
4. It is advisable to seal all openings properly after installation.

Walk Testing

1. Apply 12VDC and allow 5 seconds for warming up and stabilizing.
2. Walk slowly across the curtain pattern (in vertical directions to beams). The LED lights whenever you enter or exit a curtain beam.
3. After testing, you may disable the LED to prevent unauthorized tracing the coverage pattern. Remove the LED jumper from its position (across the 2 pins and fix it on one of the pins.

Note: The range and coverage area should be checked at least once a year. To assure proper continuous functioning, the user should be instructed to perform a walk test at the far end of the coverage pattern to assure an alarm signal prior to each time the alarm system is armed.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules, These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

- Re-orient or re-locate the receiving antenna.
- Increase the distance between the device and the receiver.
- Connect the device to an outlet on a circuit different from the one which supplies power to the receiver.
- Consult the dealer of an experienced radio/TV technician.

WARNING! Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user' s authority to operate the equipment.