1. INTRODUCTION

The CLIP-4N 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. A new technology is used to include 3 different detectors in a single case, each programmable for optimized performance at the specific mounting location. This results in better catch performance and virtually no false alarms.

The superiority of this detector over similar products is achieved by applying an improved version of the patented True Motion Recognition™ (TMR) algorithm. This advanced motion analysis method allows the CLIP-4N to distinguish between the true motion of the human body and any other disturbances that cause false alarms. Detailed coverage patterns and mounting alternatives are given in Figures 2 through 6 below.

2. SPECIFICATIONS

OPTICAL
Number of Curtain Beams: 2
Mounting Positions: See Figures 2 through 6.
Mounting Height: Up to 3.6 m (12 ft).
Range: Long, Medium and Short (jumper-selected)

ELECTRICAL
Voltage: 10 to 16 VDC.
Current Drain: About 8 mA at 12 VDC.
Alarm Output: Solid-state relay, N.C., up to 100 ma / 30 V, approx. 30 ohms internal resistance. Circuit opens upon alarm.
Tamper Output: N.C., rated at 50 mA resistive / 30 VDC.
Alarm Duration: 2-3 seconds.
LED: Walk test enabled or disabled with internal link.

Detector: Dual-element low noise pyroelectric sensor.
Microprocessor: 8-bit, low power CMOS.

ENVIRONMENTAL
Operating Temperature: -10°C to 50°C (14°F to 122°F).
Storage Temperature: -20°C to 60°C (-4°F to 140°F).
RFI Protection: > 20 V/m to 1000 MHz.

PHYSICAL
Dimensions (H x W x D): 70 x 28 x 25 mm (2-3/4 x 1-1/4 x 1 in.).
Weight: 25 g (0.9 oz).
Color: White.

PATENTS
U.S. Patent 5,693,943 (other patents pending)

3. INSTALLATION

3.1 Disassembly and Assembly

A. 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.

B. 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.
3.2 Mounting

The CLIP-4N may be mounted in various positions on walls, ceilings and door frames (see Figures 2 to 6).

**CAUTION!** To prevent false alarms caused by external temperature changes and sunshades, the detector should not be mounted closer than 0.15 m (0.5 ft) from a window frame or other metal objects that are 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.

A. Select the mounting location so that the expected motion of an intruder will cross the curtain beams.

B. When mounting on the ceiling (Figure 3), the ceiling height must not exceed 3.6 m (12 ft). The maximum detection distance is 6 m (20 ft) and the curtain width at that distance is 1.3 m (4.5 ft).

C. To minimize false alarms, it is advisable to avoid aiming the detector at heat sources, sources of light, or windows subjected to direct sunlight. Also avoid running wiring close to high voltage electric cables.

D. Remove the front cover as instructed in Para. 3.1A.

E. Mount the base with the PCB at the location and height that gives optimum coverage. Use the two mounting knock-out holes (see Figure 9).

F. Always install the unit on a firm and stable surface.

3.3 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 Figure 10 and connect wires to the terminal block in the following order:

A. Connect terminals 5 and 6 (the relay N.C. terminals) to a normally closed 24-hour protective loop of the control panel. The tamper contacts will open when the unit is removed.

B. Connect terminals 1 & 2 (the relay N.C.) terminals to a normally closed protective loop of the control panel. The alarm output circuit will open when motion is detected or during power loss.

C. Connect terminals 3 (-) and 4 (+) to a 10 to 16 Volt DC power source (observe polarity). The power supply must have battery backup. The current drain of each unit is approximately 12.5 mA.

D. It is advisable to seal all openings properly after installation.

3.4 Setting the Coverage Range

A 3-pin jumper is used to select 3 coverage ranges for the curtain beams (see Figure 11). The jumpers are shown as seen when the detector is positioned with its terminal block up (refer to Figure 9).

**Figure 11. Range Coverage Jumper Settings**

The purpose of the range setting is to ensure optimal signal processing and high immunity against false alarms. Mount the range jumper in the desired position and make sure that the protected area is within the selected coverage range. Carry out a walk test (refer to Para. 3.5 below) to verify proper performance.

3.5 Walk Testing

A. Apply 12 VDC and allow 1 minute for warming up and stabilizing.

B. Walk slowly across the curtain pattern (in opposite directions). The LED lights whenever you enter or exit a curtain beam. Allow 5 seconds between each test for the unit to stabilize.

C. 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 install it on one of the pins.

**Note:** The range and coverage area should be checked at least once a year. To operate proper coverage 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 or an experienced radio/TV technician.

WARRANTY

Visonic Limited (the “Manufacturer”) warrants this product only (the “Product”) to the original purchaser only (the “Purchaser”) against defective workmanship and materials under normal use of the Product for a period of twelve (12) months from the date of shipment by the Manufacturer. This Warranty is absolutely unconditional upon the Product having been properly installed, maintained and operated under conditions of normal use in accordance with the Manufacturers recommended installation and operation instructions. Products which have become defective for any other reason, according to the Manufacturer’s discretion, such as improper installation, failure to follow recommended installation and operational instructions, neglect, willful damage, misuse or vandalism, accidental damage, alteration or tampering, or repair by anyone other than the manufacturer, are not covered by this Warranty.

The Manufacturer does not represent that this Product may not be compromised and/or circumvented or that the Product will prevent any death and/or personal injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product will in all cases provide adequate warning or protection. The Product, properly installed and maintained, only provides limited protection against burglary and is not a guarantee or insurance that such events will not occur.

THE WARRANTY IS EXCLUSIVE AND EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, OBLIGATIONS OR LIABILITIES, WHETHER WRITTEN, ORAL, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, OR OTHERWISE, IN NO CASE SHALL THE MANUFACTURER BE LIABLE TO ANY PERSON FOR ANY DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES OR LOSS, DAMAGE, OR EXPENSES INCLUDING, WITHOUT LIMITATION, PERSONAL INJURY, INJURY TO PROPERTY, LOSS OF REVENUE, LOSS OF GOODWILL, OR GOOD NAME, WHICH ARE NOT CAUSED DIRECTLY OR INDIRECTLY ARISING FROM PURCHASER’S USE OR LIABILITY TO USE THE PRODUCT, OR FOR LOSS OR DESTRUCTION OF OTHER PROPERTY OR FROM ANY OTHER CAUSE, EVEN IF MANUFACTURER IS ADVISED OF THE POSSIBILITIES OF SUCH DAMAGE. THE MANUFACTURER SHALL NOT HAVE LIABILITY FOR ANY DEATH, PERSONAL AND/OR BODILY INJURY AND/OR PROPERTY LOSS, WHETHER DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, BASED ON A CLAIM THAT THE PRODUCT FAILED TO FUNCTION.

**WEEE Product Recycling Declaration**

For information regarding the recycling of this product you must contact the company from which you originally purchased it. If you are discarding this product and not returning it for repair then you must ensure that it is returned as identified by your supplier. This product is not to be thrown away with everyday waste.