

# GENIUS PLUS PET

## DOUBLE LINEAR IMAGING TECHNOLOGY PIR SENSOR



**INSTALLATION INSTRUCTIONS**  
P/N: 7101369 Rev. D A.Y.

### GENERAL DESCRIPTION

This DOUBLE QUAD ELEMENT PIR detector is based on the latest "ASIC" (Application Specific Integrated Chip) and SMD technologies.

The GENIUS PLUS PET detector using special designed optical Lens with unique Quad element PIR Sensors and new ASIC base electronic optimized to eliminate false alarms, caused by small animals and Pets.

The GENIUS PLUS PET monitors the environment by analyzing the conditions and adapts to it constantly. If conditions change, the GENIUS PLUS PET adapts it maintaining sensitivity levels and detection capability. By using Double Quad Optic Systems with a diagonally opposed configuration (phase shift discrimination), the GENIUS PLUS PET is able to achieve a three dimensional thermal image of the protected area. It stores this image and refers to it determine intrusions. During the standby mode (no LED indications) the GENIUS PLUS PET constantly monitors the protected area, updating and reconfiguring itself as conditions change.

### GENIUS PLUS PET FEATURES

- Double Quad Linear Imaging Technology for sharp analysis of body dimensions and differentiation from background and animals.
- Immunity to animals up to 25kg (55 lbs).
- High RF and EM Immunity.
- Environmental immunity.
- 15m (49.2 ft) Detection Range with Wide Angle Lens
- Temperature compensation.
- Compact Design for Residential Installation
- Variable pulse width adjustment.
- Sensitivity adjustment.
- Height installation calibrations free.



The GENIUS PLUS PET provides immunity up to 25Kg (55 lbs). For better immunity, avoid installation in area reached by pet.

### MOUNTING LOCATION

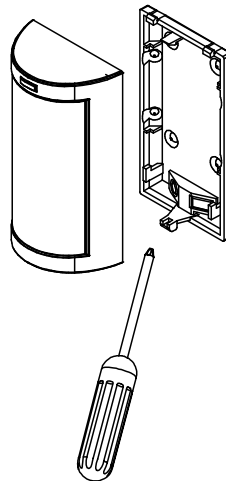
Choose a location most likely to intercept an intruder. See the detection patterns in Fig. 5. The double quad element high quality sensors detect motion across the beam field; they are slightly less sensitive to motion towards the detector.

While the GENIUS PLUS PET is capable of detecting intrusions under exceedingly difficult conditions, it is recommended to avoid the following locations:

- Areas where sunlight may shine directly onto the PIR (lens).
- Facing surfaces that may change temperature extremely rapidly.
- Areas with extreme airflows.

NOTE: Recommended installation height – 2.4m (7.9ft).

### FIG. 1 – REMOVAL THE FRONT COVER



### MOUNTING THE DETECTOR

A variety of mounting positions is possible with the standard GENIUS PLUS PET housing.

1. Open the front cover by pushing with screwdriver the holding pin at the middle of its lower surface and lifting upwards.
2. Snap out the detector PCB.
3. The GENIUS PLUS PET housing can be mounted in a variety of ways. The circular indentations in the housing indicate mounting holes to be punched out in accordance with the desired mounting position:
4. For surface mounting punch out the 4 indentations marked "B" (see Fig. 2).
5. For Corner mounting gives 45° angle on either the right or the left side. Punch out the indentations marked "C" (see Fig. 2)

6. The circular and rectangular indentations at the bottom base are the knockout hole for wire entry. You may also use mounting holes that are not in use for running the wiring into the detector.

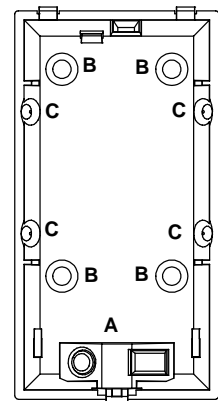
7. To close the front cover, insert the two small prongs along its upper edge into their corresponding slots in the upper edge of the base. Insert the larger prong at the bottom of the front housing into the slot at the bottom of the base by exerting slight pressure on the prong. The front cover should now fit snugly into the base.

*For detector installation it is recommended to use set of screws and plastic anchors supplied with the detector.*

**CAUTION:** using different or bigger screws may damage the electronic board.

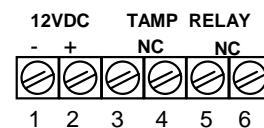
### FIG. 2 - OPTIONAL HOLES

The plastic base include different types of knockdown holes:



- A. Wire access holes
- B. Use for flat wall mounting
- C. Corner mounting - use all 4 holes.

### FIG. 3 - TERMINAL BLOCK CONNECTIONS



**Terminal 1 - Marked " - " (gnd)**  
Connect to ground of the control panel.

**Terminal 2 - Marked " + " (+12V)**  
Connect to a positive Voltage output of 8.2 -16Vdc source (usually from the alarm control unit)

**Terminals 3 & 4 - Marked " TAMPER "**  
If a Tamper function is required connect these terminals to a 24-hour normally closed protective zone in the control unit. If the front cover of the detector is opened, an immediate alarm signal will be sent to the control unit.

**Terminals 5 & 6 - Marked " RELAY "**  
These are the output relay contacts of the detector. Connect to a normally closed zone in the control panel.

FIG. 4 – GENIUS PLUS PET PCB LAYOUT

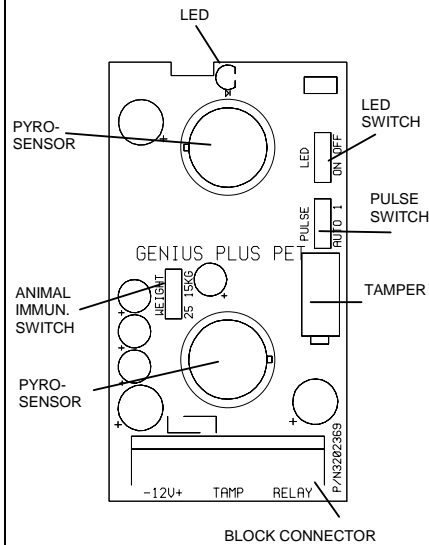
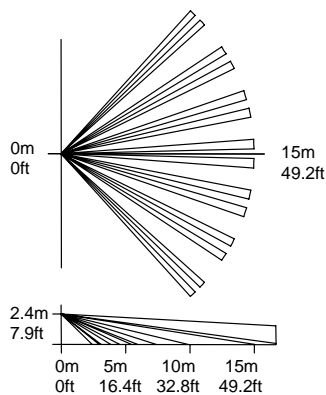


FIG. 5 – WIDE ANGLE LENS PATTERN



## TECHNICAL SPECIFICATIONS

Power input	8.2 - 16VDC
Current consumption	
Standby	13mA at 12VDC
Active	8.5mA at 12VDC
Detection speed	0.15 to 1.8m/sec (0.5 to 6 ft./sec)
Alarm output	N.C 50mA at 24VDC 27ohm in line resistor
Tamper switch	N.C 50mA at 24VDC 10ohm in line resistor
Operating temperature	-20°C to 50°C (-4°F to 122°F)
Operating humidity	Up to 95% (non-condensing)
Storage temperature	-40°C to 80°C (-40°F to 176°F)
Detection method	2 matching Dual/Quad element with double optic system
RFI protection	≥30V/m at 10 to 1000MHz
EMI immunity	50,000Volt electrical interference due to power surges or lighting
LED Indicator	LED is blinking 8 time during warm up period and self testing 12 Sec. LED is ON during alarm.
Dimensions	88 x 48 x 33mm (3.46" x 1.9" x 1.3")
Weight	53 gr. (1.9 oz.)

**CROW reserves the rights to change specifications without prior notice**

## SLIDE SWITCHES SETTING

**Pulse Switch** - Provides control for normal or high risk operating environments.



This setting is for a stable environment without air drafts. Without Pets.



The GENIUS PLUS PET will automatically select the appropriate pulse count level according to the strength of the incoming signals. This setting is for operation in a harsh environment with air drafts. With Pets. In AUTO mode, the GENIUS PLUS PET will increase its sampling rate and take more factors into account.

## LED Switch – LED control selection



LED ENABLE - The LED will light when the GENIUS PLUS PET is in alarm condition.



LED DISABLE - The LED is disabled.

## WA LENS PATTERN

COVERAGE	WIDE ANGLE
	90°
	15m x 22m
	49.2ft x 72.2ft

TOTAL DETECTION ZONES	84
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## IMPORTANT:

- In an environment with animal:
- The GENIUS PLUS PET has to be mounted at 2.1m (7ft.) or higher (up to 2.4m or 7.9ft.) above floor level.
- Install the GENIUS PLUS PET vertically (not tilted forward).
- Flip jumper switch "PULSE to the "AUTO" (down) position for a harsh environment.

## WARRANTY

(Crow) warrants this product to be free from defects in materials and workmanship under normal use and service for a period of one year from the last day of the week and year whose numbers are printed on the printed circuit board inside this product.

Crow's obligation is limited to repairing or replacing this product, at its option, free of charge for materials or labor, if it is proved to be defective in materials or workmanship under normal use and service. Crow shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Crow.

There are no warranties, expressed or implied, of merchantability or fitness for a particular purpose or otherwise, which extend beyond the description on the face hereof. In no case shall Crow be liable to anyone for any consequential or incidental damages for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever, even if the loss or damage is caused by Crow's own negligence or fault.

Crow does not represent that this product can not be compromised or circumvented; that this product will prevent any person injury or property loss or damage by burglary, robbery, fire or otherwise; or that this product will in all cases provide adequate warning or protection. Purchaser understands that a properly installed and maintained product can only reduce the risk of burglary, robbery or other events occurring without providing an alarm, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss or damage as a result. Consequently, Crow shall have no liability for any personal injury, property damage or any other loss based on claim that this product failed to give any warning. However, if Crow is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, Crow's maximum liability shall not in any case exceed the purchase price of this product, which shall be the complete and exclusive remedy against Crow.

This warranty replaces any previous warranties and is the only warranty made by Crow on this product. No increase or alteration, on the obligation of this Limited Warranty is authorized.

This warranty is given in favor of the original purchaser only. For warranty service, return this product, with d, to your dealer.



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## Pet Immunity Switch – Pet weight selection



Immunity to animal up to 25 kg (55 lbs)



Immunity to animal up to 15 kg (33.1lbs)

## WIRE SIZE REQUIREMENTS

Use #22 AWG (0.5 mm) or wires with a larger diameter. Use the following table to determine required wire gauge (diameter) and length of wire between the detector and the control panel.

Wire Length	m	200	300	400	800
Wire Diameter	mm	.5	.75	1.0	1.5
Wire Length	ft.	800	1200	2000	3400
Wire Gauge	#	22	20	18	16

## TEST PROCEDURES

WAIT ONE MINUTE WARM-UP TIME AFTER APPLYING 12 VDC POWER. CONDUCT TESTING WITH THE PROTECTED AREA CLEARED OF ALL PEOPLE.

## Walk test

- Remove front cover. The pulse jumper must be in position 1. The LED must be enabled.
- Replace the front cover.
- Start walking slowly across the detection zone.
- Observe that the detector's LED lights whenever motion is detected.
- Allow 5 sec. between each test for the detector to stabilize.
- After the walk test is completed, the LED may be disabled.

## NOTE:

walk tests should be conducted, at least once a year, to confirm proper operation and coverage of the detector.

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These instructions supersede all previous issues in circulation prior to April 2003.