

SWAN 2000

PASSIVE INFRARED & MICROWAVE DETECTOR With ANTI-MASK & PET IMMUNITY

PRODUCT FEATURES

The detector analyses the environmental conditions through the entire movement speed frequency spectrum, allowing focus on intruders and eliminating environmental factors of false alarms. The spectrum analysis is embedded in the VLSI based electronics of the detector assuring high reliability and trouble free operation.

Unique function - anti-mask - guarantees detector protection from non desirable approach and any kind of masking beginning from the distance 0.8m and closer.

As the Swan 2000 is a combined technology (PIR & microwave) an alarm signal relay activation occurs only when signals from both sensors (PIR & MW) are present at the same time.

The effective detection range is the range of which the patterns (PIR & MW) are intersected.

The MW potentiometer adjustment changes the MW signal intensity so that the effective pattern will be scaled.

- Quad (Four element) PYRO sensor and hard lens for outstanding detection performance and elimination of false alarms.
- Unique detector protection from intruder approach for close distance.
- *Swan 2000 breaks off Anti-Mask alarm signal only after receiving signal from PIR, but not less than 30 sec.*
- VLSI based electronics with movement speed spectrum analysis.
- Bi directional temperature compensation.
- Microwave sensitivity adjustment.
- Stripline antenna.
- Height installation calibration free from 1.8m to 2.4m.
- User friendly installation with or w/o swivel bracket.
- Environmental immunity.
- The Swan 2000 provides *pet immunity* up to 25Kg. Pet active below 1m.

SELECT MOUNTING LOCATION

Choose a location most likely to intercept an intruder. (Our recommendation is a corner installation). See detection pattern – fig.4. The quad-element high quality sensor detects motion crossing the beam; it is slightly less sensitive detecting motion toward the detector.

The Swan 2000 performs best when provided with a constant and stable environment.

AVOID THE FOLLOWING LOCATIONS

- Facing direct sunlight.
- Facing areas that may change temperature rapidly.
- Areas where there are air ducts or substantial airflows.

DETECTOR INSTALLATION

The detector can either be wall or corner mounted. If ceiling or special wall mounting is required, use the optional bracket base. Refer to bracket description. (See fig. 7).

1. To remove the front cover, unscrew the holding screw and gently raise the front cover.

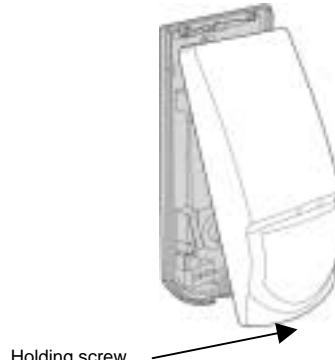


Fig.1

2. To remove the PC board, carefully unscrew the holding screw located on the PC board.
3. Break out the desired holes for proper installation.



- A. Wire access holes
- B. Use for flat wall mounting
- C. Corner mounting - use all 4 holes. Sharp left or right angle mounting - use 2 holes (top and bottom)
- D. For bracket mounting

Fig. 2

4. The circular and rectangular indentations at the bottom base are the knockout holes for wire entry. You may also use mounting holes that are not in use for running the wiring into the detector. (For option with bracket - lead wire through the bracket – fig.7)
5. Mount the detector base to the wall, corner or ceiling. (For option with bracket see fig.7).
6. Reinstall the PC board by fully tightening the holding screw. Connect wire to terminal block.
7. Replace the cover by inserting it back in the appropriate closing pins and screw in the holding screw.

DETECTOR CONNECTION



Terminal 1 - Marked “ - ” (GND)

Connect to the negative Voltage or ground of the control panel.

Terminal 2 - Marked “ + ” (+12V)

Connect to a positive Voltage of 8.2 -16Vdc source (usually from the alarm control unit).

Terminals 3 & 4 - Marked “ TAMP ”

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 “ R-PIR ”

These are the output relay PIR contacts of the detector. Connect to a normally closed zone in the control panel.

Terminal 7 - Marked “ EOL ”

End of line option.

Terminals 8 & 9 - Marked “ R-AM ”

These are the output relay Anti Mask contacts of the detector. Connect to a normally closed zone in the control panel.

TESTING THE DETECTOR

Wait for one minute warm up time after applying 12 Vdc power. Conduct testing with the protected area cleared of all people.

Walk test

1. Remove front cover. Set LED to ON position.
2. Reassemble the front cover.
3. Start walking slowly across the detection zone.
4. Observe that the red LED lights whenever motion is detected.
5. Allow 5 sec. between each test for the detector to stabilize.
6. After the walk test is completed, you can set the LED to OFF position.

NOTE:

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



Fig.3

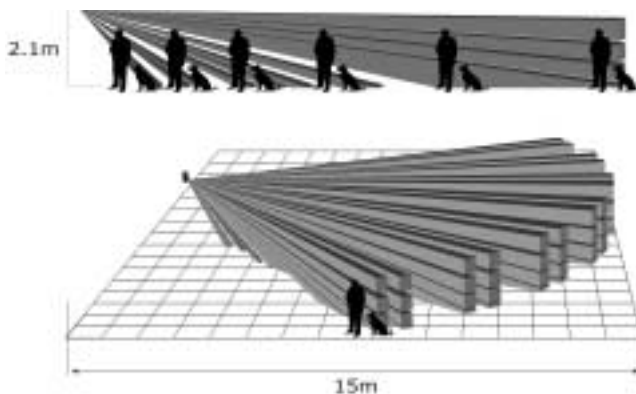


Fig.4

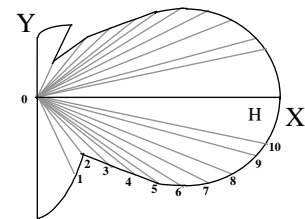


Table 1:

| ## | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|
| a | 180 | 130 | 100 | 84 | 75 | 70 | 60 | 52 | 40 | 30 | 20 |
| X | 0 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 285 |
| Y | 105 | 609 | 715 | 698 | 801 | 105 | 1039 | 1024 | 873 | 723 | 503 |

X,Y are corresponds (m) of pattern points when H=30m

Fig.5

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SETTING UP THE DETECTOR

LED INDICATION OF ALARM SIGNAL

Switch 1 of dipswitch DIP-4 use for setting - LED Enable / Disable
 Position Up - ON - LED ENABLE
 The RED LED will activate when the detector is in alarm condition.
 Position Down - OFF - LED DISABLE
 The LEDs are disabled (except "Anti Mask" mode).

Note: when an object is too close to the detector (depending on Switch 2 position), all three LEDs will blink together until the Swan 2000 exits the Anti Mask mode regardless of Switch 1 position.

Note: the state of the switch "LED" does not affect the operation of the relay.
 When an intrusion is detected, the LED will activate and the alarm relay will switch into alarm condition for 2 sec.

LED INDICATORS:

YELLOW LED - MW detection's
 GREEN LED - PIR detection's
 RED LED - Alarm

ANTI MASK FUNCTION RANGE

Switch 2 of dipswitch DIP4 use for setting the Anti Mask function
 Position Up – ON - protection against masking the detector from 0.4m and closer.
 Position Down – OFF - protection against masking the detector from 0.8m and closer.

PIR SENSITIVITY ADJUSTMENT

Switch 3 of dipswitch DIP4 use for setting the PULSE count function in order to provide PIR sensitivity control according to the environment.
 Position Down – OFF – High sensitivity
 For stable environments.
 Position Up – ON – Low sensitivity
 For harsh environments.

PET IMMUNITY SETTING

Switch 4 of dipswitch DIP4 use for setting the PET Immune function - Up to 15Kg or 25Kg, depending on the pet weight.
 Position Up - ON
 Immunity to an animal up to 15 kg
 Position Down - OFF
 Immunity to an animal up to 25 kg

YOU MUST RESET THE DETECTOR BY DISCONNECTING THE POWER SUPPLY AND RECONNECTING IT AFTER A FEW SECONDS.

RANGE ADJUSTMENT

Use the Potentiometer marked "PIR" to adjust the detection sensitivity between 15% and 100%, according to walk test in the protected area. (See fig.4).
 Factory setting is 57%.

The "MW" potentiometer adjusts the detection sensitivity of Doppler between 40% and 100% (factory set to 65%). Rotate the potentiometer clockwise to increase sensitivity. Rotate the potentiometer counter-clockwise to decrease sensitivity. (See fig.5).

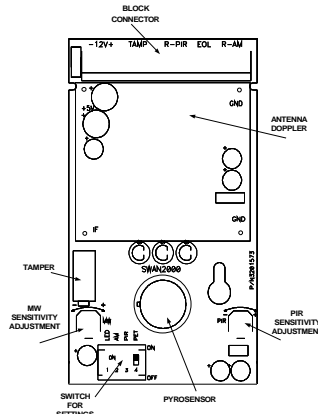


Fig. 6

Ceiling bracket base

Wall bracket base

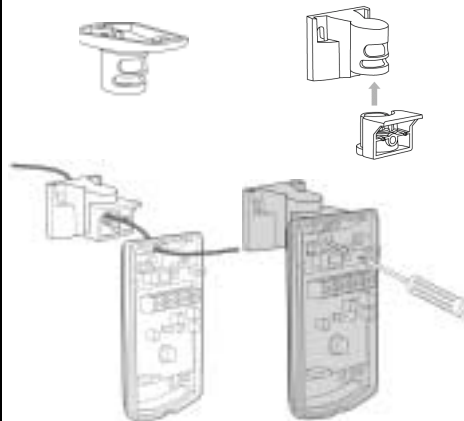


Fig.7

TECHNICAL SPECIFICATION

| | |
|--------------------------|---|
| Detection Method | Quad element PIR & microwave pulse Doppler |
| Power Input | 8.2 to 16 Vdc |
| Current Draw | Active : 25.5 mA Standby: 16.5 mA |
| Temperature Compensation | YES |
| Alarm Period | 2 +/- 1 sec |
| Alarm Output | N.C 28Vdc 0.1 A with 10 Ohm series protection resistors |
| Tamper Switch | N.C 28Vdc 0.1A with 10 Ohm series protection resistor - open when cover is removed |
| Warm Up Period | 1 min |
| LED Indicator | Yellow LED is blinking during warm up period and self testing Red LED: ON during alarm Green LED: PIR CHANNEL Yellow LED: MW CHANNEL |
| Dimensions | 123mm x 62mm x 38mm |
| Weight | 120gr |



CROW ELECTRONIC ENGINEERING LTD. ("Crow") - WARRANTY POLICY CERTIFICATE

This Warranty Certificate is given in favor of the purchaser (hereunder the "Purchaser") purchasing the products directly from Crow or from its authorized distributor.
 Crow warrants these products to be free from defects in materials and workmanship under normal use and service for a period of 1 year from the last day of the week and year whose numbers are printed on the printed circuit board inside these products (hereunder the "Warranty Period").
 Subject to the provisions of this Warranty Certificate, during the Warranty Period, Crow undertakes, at its sole discretion and subject to Crow's procedures, as such procedures are from time to time, to repair or replace, free of charge for materials and/or labor, products proved to be defective in materials or workmanship under normal use and service. Repaired products shall be warranted for the remainder of the original Warranty Period.
 All transportation costs and in-transit risk of loss or damage related, directly or indirectly, to products returned to Crow for repair or replacement shall be borne solely by the Purchaser.
 Crow's warranty under this Warranty Certificate does not cover products that is defective (or shall become defective) due to: (a) alteration of the products (or any part thereof) by anyone other than Crow; (b) accident, abuse, negligence, or improper maintenance; (c) failure caused by a product which Crow did not provide; (d) failure caused by software or hardware which Crow did not provide; (e) use or storage other than in accordance with Crow's specified operating and storage instructions.
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 This limited Warranty Certificate is the Purchaser's sole and exclusive remedy against Crow and Crow's sole and exclusive liability toward the Purchaser in connection with the products, including without limitation - for defects or malfunctions of the products. This Warranty Certificate replaces all other warranties and liabilities, whether oral, written, (non-mandatory) statutory, contractual, in tort or otherwise.
 In no case shall Crow be liable to anyone for any consequential or incidental damages (inclusive of loss of profit, and whether occasioned by negligence of the Crow or any third party on its behalf) for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever. Crow does not represent that these products can not be compromised or circumvented; that these products will prevent any person injury or property loss or damage by burglary, robbery, fire or otherwise; or that these products will in all cases provide adequate warning or protection.
 Purchaser understands that a properly installed and maintained product may in some cases reduce the risk of burglary, fire, 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 these products failed to give any warning.
 If Crow is held liable, whether directly or indirectly, for any loss or damage with regards to these products, regardless of cause or origin, Crow's maximum liability shall not in any case exceed the purchase price of these products, which shall be the complete and exclusive remedy against Crow.

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These instructions supersede all previous issues in circulation prior to October 2004.