Watchguard

Dual-Tech Motion Sensor (PIR&Microwave) with Pet Immunity



Fig 1 Knockout holes
Bracket Installation - Wall mount bracket

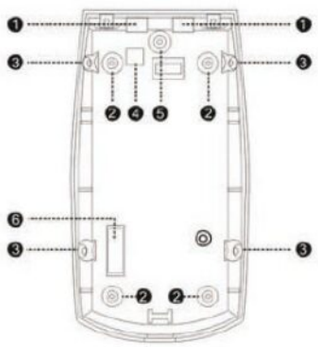
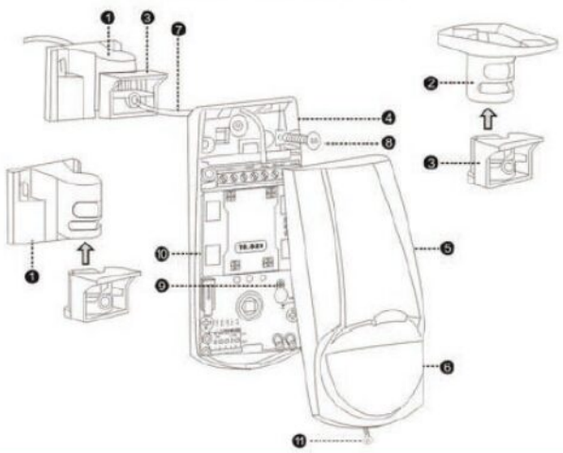


Fig 2 Detector Installation



The detector provides an analysis of 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.

As the ALH-PIRMW is a combined technology (PIR & microwave) 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 GAIN potentiometer adjustment changes the MW signal intensity so that the effective pattern will be scaled.

This Installation Manual shall be used in conjunction with the Installation Manual of the ALARM Control Panel.

TYPICAL INSTALLATION
Select mounting location

Choose a location most likely to intercept an intruder. (Our recommendation is a corner installation). See detection pattern (Fig.3).

The quad•element high quality sensor detects motion crossing the beam; it is slightly less sensitive detecting motion toward the detector.

Avoid The Following Locations:• Facing direct sunlight.• Facing areas that may change temperature rapidly. • Areas where there are air ducts or substantial airflows.

The ALH-PIRMW performs better when provided with a constant and stable environment.

This detector shall be installed and used within an environment that provides the pollution degree max 2 and overvoltages category II, NON HAZARDOUS LOCATIONS, indoor only. The detector is designed to be installed by service persons only.

MOUNTING THE DETECTOR

1. Remove the front cover by unscrewing the holding screw (Fig. 2-11) and gently raise the front cover. (Fig. 2 ·S)

2. Remove the PC board by unscrewing the holding screw located on theboard.(Fig. 2 - 9)

3. Break out the desired holes for proper installation (Fig. 1 - 2) for fiat mount or Fig. 1·3 for corner mount) Use 4 screws type 3x30mm.

4. The circular and rectangular indentations at the bottom base (Fig. 1·1, Fig. 1-4) are the knockout holes for wire entry.

5. Mount the detector base to the wall or corner.

Note: Brackets not included or supplied.

7. Reinstall the PC board by fully tightening the holding screw.

8. Connect wire to terminal block.(Fig. 4)

9. Replace the cover by inserting it back in the appropriate closing pins.and screw in the holding screw.

If back tamper is assembled (Fig.1-6) there is no bracket option and the detector must be installed in nat mounting only.

DETECTOR INSTALLATION
Terminal Block Connections (See Fig. 4)

Terminal 1 - Marked"." (GND) Connect to the negative Voltage output or ground of the control panel.

Terminal 2 •Marked"+" (+12V) Connect to a positive Voltage output of 9.6·16VDC source. Use only a listed power limited source.

Terminals 3 & 4 • Marked TAMPER 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.

Terminal 6 & 7 Marked RELAY· These terminals are the NC (Normally Closed) output and COMMON output of ALARM relay.

SETTING· UP THE DETECTOR (Dipswitch Fig.5-2)

LED ENABLE/DISABLE

Switch 1 ofdipswitch marked "LED" - LED's Enable/Disable

Position Up "ON" - LED's ENABLE The 3 LED's will be activating Red for ALARM, Green for PIR detection, Yellow for MW detection.

Position Down "OFF" - LED's DISABLE The LED's are disabled.

NOTE: The state of the switch "LED" - does not affect the operation of the relays. When an intrusion is detected, the alarm relays will switch into alarm condition for 2 sec.

PIR SENSITIVITY ADJUSTMENT

Switch 2 of dipswitch marked "PIR" · provides sensitivity control of PIR according to the environment.

Position Up"ON" · (Pulse=l)-High sensitivity for stable environments.

Position Down"OFF"-(Pulse=Auto)•Low sensitivity for harsh environments.

MW SENSITIVITY ADJUSTMENT

Switch 3 of dipswitch marked "MW" - provides sensitivity control of Microwave detection according to the environment.

INFRONT TECHNOLOGIES

Supplied by INFRONT TECHNOLOGIES

Phone 1300 736 970

sales@infronttech.com.au · infronttech.com.au

For more information call or email — Australia-wide sales, technical support and warranty service.

Watchguard

Coverage area: 50 ft x 50 ft (minimum sensitivity) and 60 ft x 50 ft (maximum sensitivity)

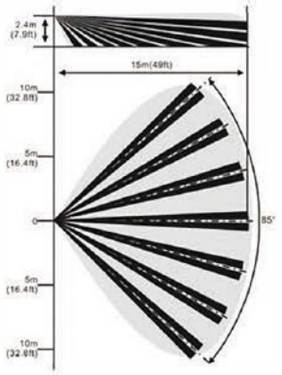


Fig.3 Lens Pattern

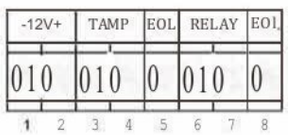


Fig. 4 Terminal block

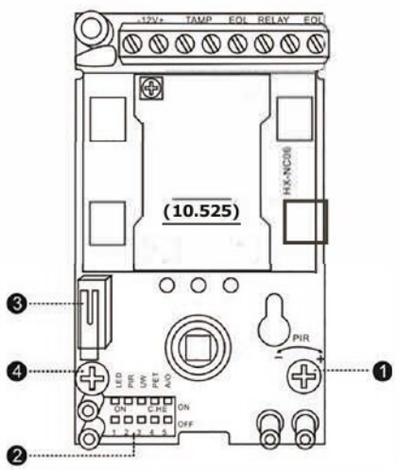


Fig.5 PCB Layout

1	2	3	4
PIR Sensitivity Adjustment	Oip Switch for setting	Tamper switch	MW Sensitivity Adjustment

Position Up "ON"• (8 Pulses)• Low sensitivity for harsh or unstable environments.

Position Down "OFF" (2 Pulses)· High sensitivity for stable environments

PET IMMUNITY SETTING

Switch 4 of dipswitch marked "PET" - provides setting for pet weight 15kg (33lbs) or25kg (55lbs)

Position Up "ON"• Immunity to an animals up to 15 kg (331bs)

Position Down "OFF"• Immunity to an animals up to 25kg (55lbs)

AND/OR FUNCTION SETTING

Switch 5 of dipswitch marked "A/0" • provides setting for ALARM relay activation.

Position Up "ON" • OR mode • the ALARM relays will activate as a function of PIR OR MW detection (The first channel that detects will activate the ALARM)

Position Down "AND"· AND mode· the ALARM relays will activate as a function of both PIR AND MW detection.

NOTE: Detector must be restart by temporary remove power before the new settings will take effect.

RANGE CALIBRATION

The "MW" potentiometer (Fig. 5-4) adjusts the MW detection range between minimum and maximum (factory set to middle position).

The "PIR" potentiometer (Fig. 5-1) adjusts the PIR detection range between Minimum and Maximum (factory set to Middle Position).between Minimum and Maximum (factory set to Middle Position).

NOTE: The "MW" and "PIR" potentiometer may need to be adjusted to the Maximum positions in order to achieve maximum area of coverage as indicated in Fig. 3.

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
Wired Diameter	mm	.5	.75	1.0	15
Wired Length	ft.	656	984	1312	2624
Wired Gauge	AWG	22	20	18	16

WALK TESTING

IMPORTANT NOTE: Upon installation, the unit should be thoroughly tested to verify proper operation. The end user should be instructed on how to perform a walk test weekly.

Make sure detector has been set up: Pulse=l, LED=ON and protected area cleared of all people. Create motion in the entire area where coverage is desired, observe the Green LED for PIR detection, and Yellow LED for MW detection. Should the coverage be incomplete, readjust range or relocate the detector.

Once coverage is as required, the alarm LED may be disabled.

Use the optional BK-04 wall mount or ceiling mount brackets to solve placement problems. The brackets allow for horizontal positioning of the detector.

Detection Method	Quad (Four element) PIR&mlcrowave pulse Doppler
Power Input	9.6to !6Vdc
Current Draw	Active: 25mA Standby: 20mA
Temp Consumption	Yes
Alarm Period	2 ± 1 sec
Alarm Outputs	Form A • NC28Vdc 0.1 A with 10 Ohm series protection resistors
Tamper Switch	NC 28Vdc 0.1 A with 10 Ohm series protection resistors open when cover is removed
Warm up Period	**lmin**
LED Indicator	**LED's are blinking during warm up period and selrtes-tlng**
Red LED	**ON during alam1**
Green LED	PIR CHANNEL
Yellow LED	MW CHANNEL
RF Immunity	10 v/m plus 80%AM from 80 MHz to 1GHz
Static Immunity	8kV contact, lSkV air
Transient Immunity	2.4kV @ 1.2joules
Operation Temp	1o•c - +so •c (14 •F-122 •F]
Dimensions	118mm x 62.5mm x 41mm (4.65" X 2.46" X 1.61)
Weight	102gr. (3.6-0z)

INFRONT TECHNOLOGIES

Supplied by INFRONT TECHNOLOGIES

Phone 1300 736 970

sales@infronttech.com.au · infronttech.com.au

For more information call or email — Australia-wide sales, technical support and warranty service.