

# Operation & Specifications

## VW-DP Motion

### Motion Sensor



The VW-DP Motion is a professional state-of-the-art motion sensor engineered with the world's best components and materials starting with a Versa HighView™ lens and a top quality infrared detector. Next, a patented modern DSP ASIC directly converts the infrared detector signal into digital form, for best reliability and stability. Finally, the signal is evaluated by a HighBar™ processor, for "best-in-class" false alarm rejection with excellent intruder detection.

#### Sensor Initialization

Following power-on, a VW-DP Motion sensor is fully operational after a one-minute warm-up.

#### Walk Test

**Note:** The VW-DP Motion should be tested once per year. The LED should turn ON (for Alarm) after about two to four normal steps. Each time the LED turns ON, wait for it to turn OFF. Then, wait 12 seconds before continuing the walktest. When there is no motion in the monitored area, the LED should remain OFF. It can be turned off after 5 mins, so it doesn't continue to eat up power.

#### Alarm Processing

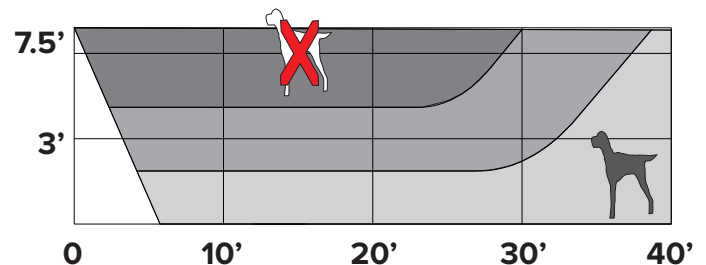
Dual-element detector fields-of-view alternate between (+) and (-) polarity. HighBar™ - qualified signal events are counted as "pulses" exclusively when polarity alternates. Depending on sensitivity setting, (+,-), (-,+), (+,-,+) or (-,+,-) will cause an alarm.

#### Pet Immunity

The VW-DP Motion is designed to allow the presence of pets (60 lbs or lighter) without signaling an alarm. It includes a special microelement lens array that produces much stronger optical signals for humans than for pets 60 lbs or lighter. Furthermore, the optical sensitivity of each VW-DP Motion is factory-calibrated to ensure accurate discrimination between humans and pets.

**Note:** Pets come in many varieties. Some pets (especially larger ones with very short hair, even if lighter than 60 lbs) may produce enough infrared radiation to cause alarms. VW-DP Motion users are strongly advised to test the sensor with their own pets, in order to verify that the VW-DP Motion will not signal an alarm when their pets are moving within its fields of view.

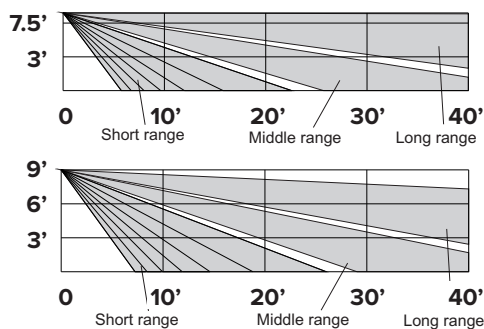
This diagram shows the VW-DP Motion's zones of greatest human/pet discrimination. The VW-DP Motion should be mounted so that pets will occupy only the lighter-colored spaces.



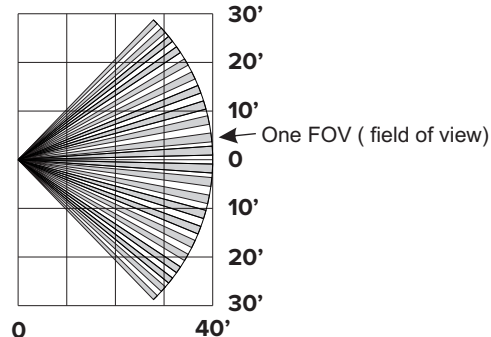
#### Specifications

**Range:** 40 feet in sensor-facing direction, 40 feet at 45° angle from sensor-facing direction

**Sensor Optical View Pattern (side view, in feet)**



**Sensor Optical View Pattern: (top view, in feet)**



**Optical Fields-of-View:** Long-range (44) Mid-range (36) Short-range (18)

<b>IR Sensor:</b> Dual elements	<b>Events Detection:</b> HighBar™ false alarm rejection processor	<b>Power Supply :</b> CR123A 3V Battery	<b>RF Immunity:</b> 20 V/m, 10-1000 MHz; 10 V/m, 1-2	<b>Power Supply Current:</b> 22uA (no alarm) GHz	<b>White Light Immunity:</b> 6500 lux	<b>Tamper Switch:</b> Sealed dome-contact
<b>Sensitivity:</b> Selectable: 2-event or 3-event	<b>Housing Material:</b> High-impact ABS	<b>Dimensions:</b> 2.9" x 2.4" x 1.7" (H x W x D)	<b>Operating Temperature Range:</b> -40°C to +55°C	<b>Approvals/qualification:</b> (Pending)	<b>Mounting bracket:</b> MB-100	<b>Pet immunity:</b> 60 lbs

# VW-DP Motion Installation Instructions

## 1: Mounting Location

### A. Wall mounting:

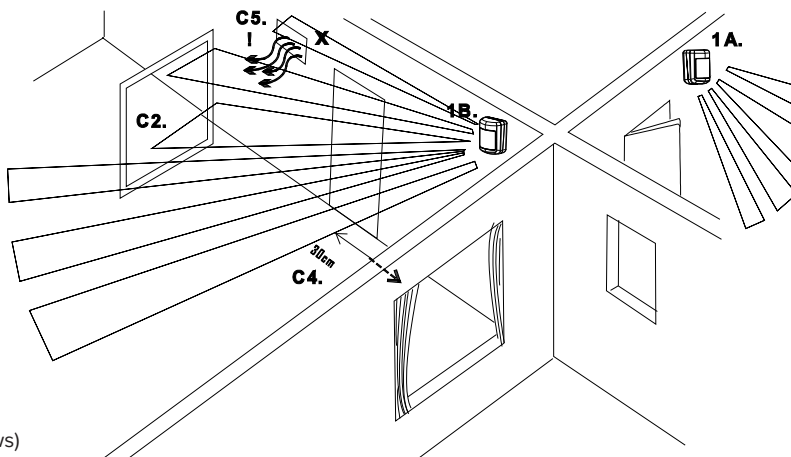
1. Sensor base fastened flat on vertical wall ( $\pm 2$  degrees)

### B. Bracket mounting:

1. Bracket fastened to semi-vertical surface ( $\pm 15$  degrees)
2. Sensor or bracket in vertical position ( $\pm 2$  degrees)

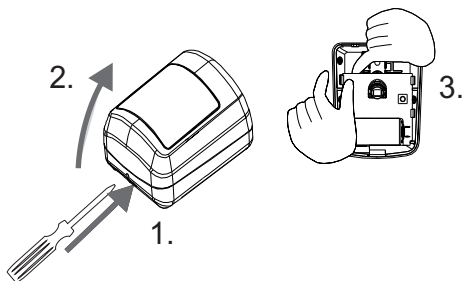
### C. All mounting:

1. Height = 7.5' or 10' above floor of monitored area
  2. Clear line-of-sight from sensor to monitored area
- Note:** glass will block sensor's view.
3. Wall temperature similar to walls/floor of monitored area
  4. Sensor aimed away from windows and reflected sunlight
  5. Sensor aimed away from heaters or heater/cooler outlets
  6. Sensor aimed so that likely intruder paths cross three views)



## 2. Sensor Disassembly

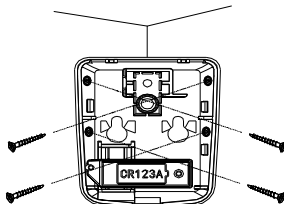
In slot at sensor bottom, use screwdriver or thumbnail to push inward (1.) on cover latch. (2.) Remove cover. (3.) Push outward on circuit board latch at sensor base right side. Using circuit board battery holder as handle, gently lift circuit board right side and remove.



## 3. Base Hole Preparation

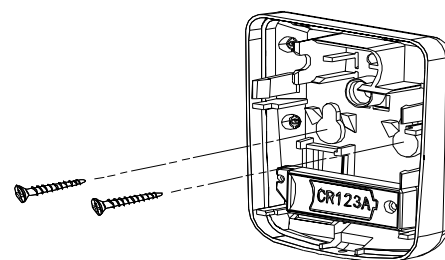
Identify necessary holes on diagram;

1. For wall mounting, knock out hole covers.
2. For corner or 45 degree wall mounting, use drill to open at least two holes at base side depressions.
3. For bracket mounting, use drill to open a 3 mm hole in the center of the square recess at the rear of the base. See 5 for more.



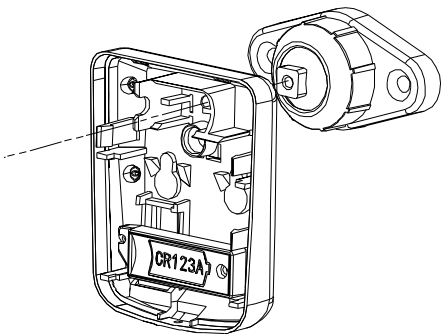
## 4. Wall Mounting

Use screws to mount on wall or in corner.



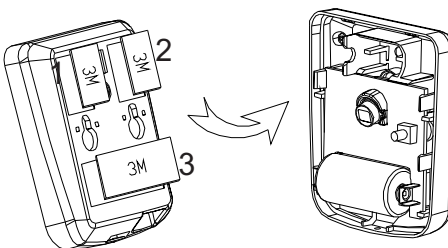
## 5. Bracket Mounting

Use screws to mount brackets in desired location. Use screw to mount sensor base onto bracket. Refer to 7 for setting circuit board alignment post.



## 6. Strips Installation

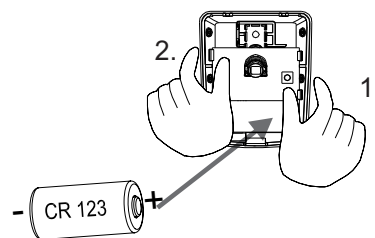
Press on with three adhesive strips (3M).



## 7. Circuit Board & Battery Installation

To replace circuit board, (1.) place circuit board right edge into two left-hand mounting slots in sensor base. (2.) On right-hand side, gently press circuit board into place until latch snaps over circuit board.

Place a CR123 battery in the battery holder. Be sure that the (+) is in the correct position.



## 8. Operation Programming

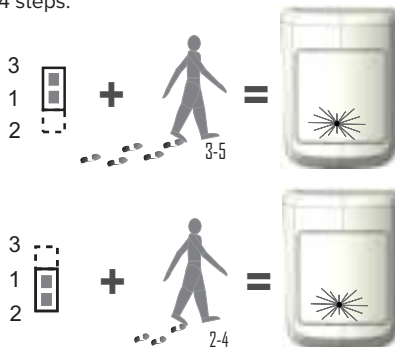
If there is a way for intruders to pass only a very short distance in the sensor's view, or if aggressive detection is required, then use high sensitivity. Otherwise, normal sensitivity is fine for ordinary applications. Factory-set positions are shown below in gray.

**NOTE:** LED turn on is for test only, as continual LED use shortens battery life.

VW-DP Motion			
Sensitivity	J4	1-3	2-1
		NORMAL	HIGH
Frequency	S3	ON	OFF
		GOLSYS/ITI 319MHz	Honeywell/2GIG 345MHz

## 9. Motion Distance Sensitivity

Set J4 (Sensitivity setting) according to need. With normal sensitivity, detection occurs in 3 to 5 steps. With high sensitivity, detection occurs in 2 to 4 steps.



## 10 LED Indicator Operation

The chart below shows possible LED indications.

VW-DP Motion	
Sensor State	LED Display
Warm-up	OFF
Alarm	ON (2 Seconds)
Normal	OFF

# Quick Start Guide



## VW-DP Motion Detector Quick User Overview

### On power up:

- Flash LED
- Send RF power up message

### While tamper switch open and for 5 minutes after tamper switch closed:

- PIR is in "Walk Test Mode"
- If PIR triggers: flash alarm LED on for 2 seconds, send reed switch / loop alarm message
- After PIR alarm clears, send reed switch / loop alarm clear message
- Approximately 12 second hold-off between subsequent reed switch / loop alarm message transmissions and LED flash. This hold-off is partially determined by the A&R PIR module ALARM signal operation.

### From 5 minutes after tamper switch closed:

- PIR is in "Normal Operation Mode"
- LED alarm indicator disabled
- If PIR trigger: send reed switch / loop alarm message
- After PIR alarm clears, send reed switch / loop alarm clear message
- 180 second (3 minute) hold-off between subsequent reed switch / loop alarm message transmissions.

### Protocol Selection with Switch:

- When the Switch is ON -> transmits using QOLSYS, INTERLOGIX (319.5 Mhz).
- When the Switch is OFF -> transmits using Honeywell 5800, 2GIG (345MHz).

Caution:

This device complies with Part 15 of the FCC rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or change to this equipment. Such modifications or change could void the user's authority to operate the equipment.

This equipment 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 a residential installation. 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 communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement.