



Instruction Manual

The HAWK 2 is a K-band microwave sensor. It detects the movement of people and vehicles in the monitored area. The HAWK 2 is used for operating automatic doors and industrial gates. It has a versatile mechanical orientation system for accurate positioning to the required coverage area making it easy to install. The detection sensitivity and direction of movement (toward, away or both) are programmed by DIP switch settings.

Cautions and Warnings



This product is an accessory or part of a system. Install the HAWK 2 according to instructions from the gate or door operator manufacturer. Comply with all applicable codes and safety regulations.

Specifications

Operating Frequency	24.150 GHz
Detection Range	3-33 ft (1-10 m) (adjustable)
Vertical Directionality	0-60°
Horizontal Directionality	+/- 45°
Mounting Height	10-20 ft (3-6 m)
Power	12-24 VDC/AC
Current Draw	40 mA (relay activated)
Relay Output	Form C (SPDT)
Relay Hold Time	1-6 seconds (adjustable)
Relay Contact Rating	1 A @ 24 VDC/AC
Operating Temperature	-4° to 122°F (-20° to 50°C)
Dimensions (L x W x H)	6.3" (160 mm) x 3.8" (95 mm) x 4.4" (110 mm)
Connection	6.5 ft (2 m) cable
Housing Material	ABS plastic
Weight	1.0 lbs (450 g)
Environmental Rating	IP66

Ordering Information

- HAWK 2 Overhead Microwave Motion Sensor

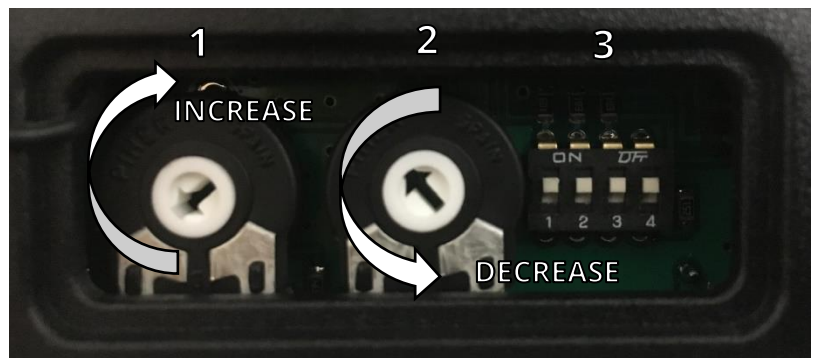
Wiring

Wire Color	Description
Red	12-24 VDC/AC
Black	12-24 VDC/AC
Green	Relay - COM (common contact)
Brown or Yellow	Relay - NO (normally open contact)
Blue	Relay - NC (normally closed contact)

Diagram & Settings

1. Output Period Setting

The output period setting allows for adjustment of the output duration contact after motion is no longer detected. The output period can be set to 1 to 6 seconds. Rotating the setting clockwise increases the output period. Rotating the setting counterclockwise decreases the output period.



2. Range Setting

After DIP switch 4 is set to a high or low sensitivity, the range setting can be used to fine tune the detection area.

3. DIP Switches

Detection Mode	DIP Switch 1
<i>Bi-Directional</i>	on
<i>Mono-Directional</i>	off

In **Bi-Directional** mode the relay is activated when motion occurs both leaving and approaching the sensor, DIP switch 2 is ignored. In **Mono-Directional** mode the relay is activated only when motion occurs in the direction specified by DIP switch 2.

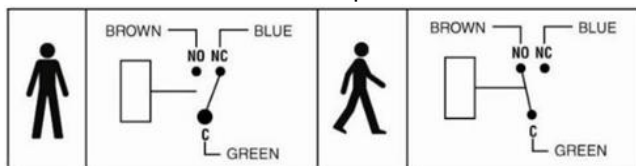
Mono-Directional Mode	DIP Switch 2
<i>Detect Leaving</i>	on
<i>Detect Approaching</i>	off

DIP switch 2 determines which direction of motion activates the relay when in Mono-Directional mode.

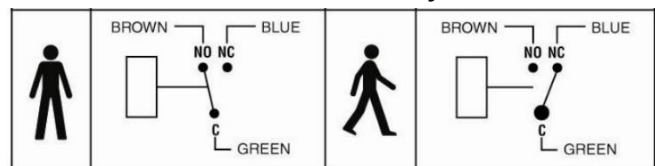
Relay Operation	DIP Switch 3
<i>Normal Operation</i>	on
<i>Positive Safety</i>	off

Configures the relay contacts position (NO/NC) when in detect and no-detect states.

Normal Operation

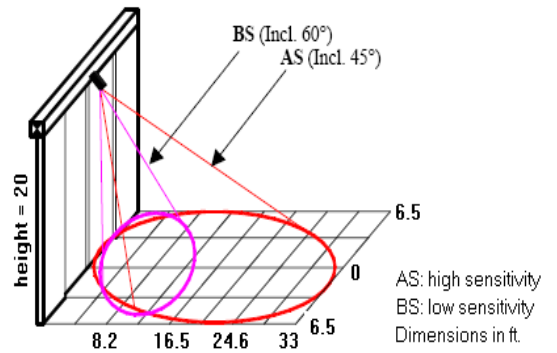


Positive Safety



Sensitivity Adjustment	DIP Switch 4
Low	on
High	off

DIP switch 4 determines the area of detection. The primary purpose of the sensitivity setting is to allow the installer the ability to control the area of detection.



Installation

1. Wire the HAWK 2 according to the [Wiring](#) section and according to operator instructions.
2. Remove the rubber plug from the back of the sensor and configure the DIP switches, output period, and range as desired.
3. Mount the HAWK 2 at a height between 10-20 feet. Use the provided mounting template to drill appropriately distanced holes on the mounting surface.

TIP:

Do not install the Hawk 2:

- Facing the moving parts of a door
- Facing and closer than 6.5 feet to fluorescent lights
- Facing an area where rain could provoke water fluxes

4. Remove the lower cover of the mounting base and loosen the screw that locks the sensor orientation using a size 3 allen key. Aim the HAWK 2 towards the desired detection area and lock the screw in that position. Replace the lower cover of the mounting base and rubber plug.
5. Test the setup by causing motion in the detection zone and adjust the Range Setting until the desired detection is achieved. The red LED will be on when the motion in the configured direction(s) is detected.

Red LED	
No Detection	Off
Detection	On

6. Cease movement and the red LED will turn off once the output period has passed.

Warranty

EMX Industries, Inc. products have a warranty against defects in materials and workmanship for a period of two years from date of sale to our customer.