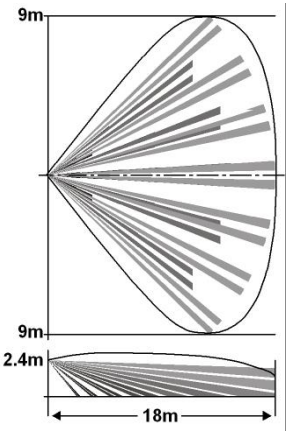
# SIM-03

**DIGITAL QUAD PIR AND MICROWAVE/ANTIMASKING DETECTOR**

CE

INSTALLATION INSTRUCTIONS
P/N 7106777 Rev A

**Wide Angle Lens**



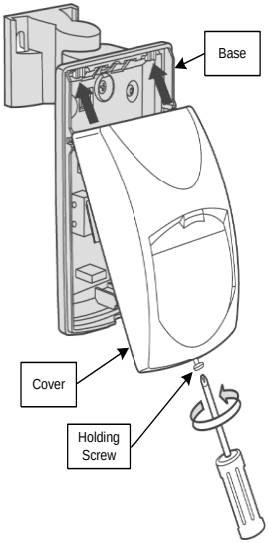

**AVOID THE FOLLOWING LOCATIONS:**

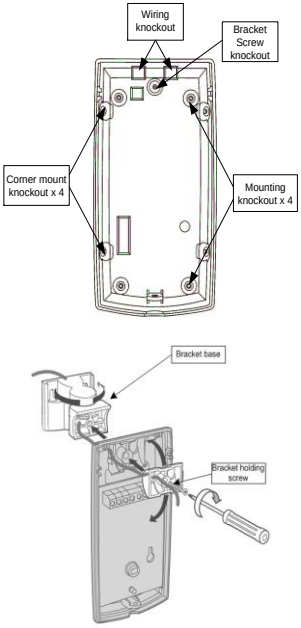
- Facing direct sunlight.
- Facing areas that may change temperature rapidly.
- Areas where there are air ducts or substantial airflows.
- Avoid screen, curtain that may block detection area.
- Do not install outdoors.

**SPECIFICATION**

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

**INSTALLING THE DETECTOR**



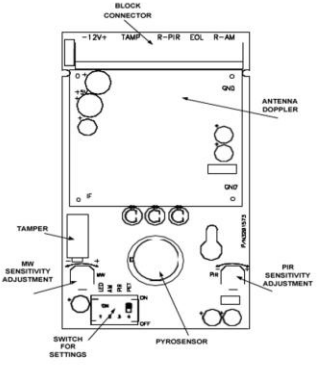




**WIRE REQUIREMENTS**

Use #22 AWG (0.5mm) 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 |

**PCB LAYOUT**



**WIRE CONNECTIONS**


**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.

**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.

**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.

**DETECTOR SETTINGS**

**Switch 1**: LED Control
Position Up - ON - LED ENABLE
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 SIM-03 exits the Anti Mask.

**LED INDICATORS**:
YELLOW LED - MW detection's
GREEN LED - PIR detection's
RED LED – Alarm

**Switch 2**: 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.

**Switch 3**: PULSE count function for PIR sensitivity. Position Down – OFF – High sensitivity For stable environments.
Position Up – ON – Low sensitivity For harsh environments.

**Switch 4**: PET Immune function.
Position Up – ON - Immunity up to 15 kg
Position Down - OFF - Immunity up to 25 kg

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

**RANGE ADJUSTMENT**

**PIR SENSITIVITY**

Use the Potentiometer marked "PIR" to adjust the detection sensitivity between 15% and 100%, according to walk test in the protected area.

Factory setting is 57%.

**MW SENSITIVITY**

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.

**TESTING THE DETECTOR**

Apply 12 Vdc power to the detector, wait 2 minutes to finish the detector warm up time. Conduct testing with the protected area cleared of all people.

**Walk test**

1. Remove front cover.
2. Make sure that PULSE switch is in position 1.
3. Make sure that LED switch is ON.
4. Replace the front cover.
5. Start walking slowly across the detection zone.
6. Observe that the detector's LED lights whenever motion is detected.
7. Allow 5 sec. between each test.
8. After the walk test is completed, the LED and PULSE jumpers may be changed.

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