

# MS15 / MS16

## DUAL TECHNOLOGY MOTION SENSORS



### OUTDOOR VOLUMETRIC PROTECTION WITH 15 M (50 FT) RANGE

**MS15** and **MS16** Dual Technology Motion Sensors offer the unique combination of Doppler Microwave and Passive Infrared technology to provide volumetric protection for a variety of exterior applications. With a 15 m x 12 m (50 ft x 40 ft) detection pattern, MS15 and MS16 sensors are designed for reliable detection of upright/walking and running targets. The MS16 High Security Motion Sensor offers enhanced detection capability for prone (crawling) targets.

MS15 and MS16 Motion Sensors are configured for “And Gate” operation; both technology elements must activate simultaneously for the sensor to alarm. The microwave portion must detect motion of an intruder, while the passive infrared portion must detect infrared radiation emitted by an intruder. When both technologies activate at once, the sensor initiates an alarm condition.

The sensors feature two microwave receiving channels with the ability to eliminate vibration and periodically moving objects as sources of false alarms. A dual element infrared detector ignores normal temperature variations, yet is highly responsive to rapid infrared changes created by an intruder. Proprietary integrated circuit design provides enhanced digital signal processing (DSP) for both microwave and passive infrared technologies.

For optimum performance, it is best to use the MS15 and MS16 motion sensors to protect specific assets or strategic areas, or as a gap filler in conjunction with an outdoor perimeter detection system, such as Southwest Microwave’s INTREPID™ MicroPoint™ Cable system, microwave links or transceivers. In general, these sensors are not used as the primary detection tool along a perimeter fence line other than as part of a proprietary system with “on-site” response or video verification.

#### KEY FEATURES

- DIGITAL SENSITIVITY AND RANGE CONTROLS
- BALANCED TEMPERATURE COMPENSATION
- ENHANCED BIRD/SMALL ANIMAL IMMUNITY CONTROL (MS15 ONLY)
- TAMPERPROOF DESIGN
- WALK-TEST SOUNDER INCLUDED
- RUGGED, WEATHERPROOF METAL HOUSING PROTECTS AGAINST RFI AND EMI INTERFERENCE
- MASTER AND ANALYTIC LED INDICATORS
- WEATHER SHROUD



# MS15 / MS16 SPECIFICATIONS

## OPERATION

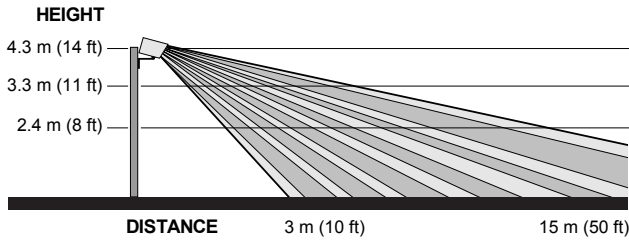
Every person, animal or object emits infrared energy and has a surface temperature that differs from that of its surroundings. This temperature contrast can be as little as +/- 1°C (1.8°F) for an intruder crossing through the field of view to trigger the infrared sensor alarm.

The microwave portion of the sensor transmits microwave energy into the protected area. Under normal conditions, the receiver establishes a reference level based on signals reflected from the protected area. Motion by an intruder causes the receiver signal to change relative to the established reference threshold, which triggers the microwave sensor alarm.

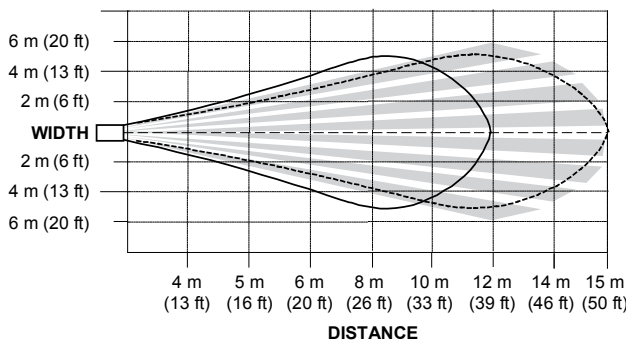
**In order for an alarm to be generated, both technologies must be in alarm simultaneously.**

MS15 / MS16 motion sensors have a field of view consisting of a Doppler Microwave detector with two receiving channels and a dual element infrared detector. Detection occurs only where microwave and passive infrared protection patterns overlap.

**VERTICAL FIELD OF VIEW**



**HORIZONTAL FIELD OF VIEW**



Microwave Min. Range ——— Microwave Max. Range - - - - - Infrared Range ■■■■■

Specifications subject to change without notice.

## SPECIFICATIONS

**Equipment Supplied:** Model MS15 or MS16 (high security) Dual Technology Motion Sensor, wall mount bracket, universal pole mount bracket (for mounting to poles from 38 mm to 114 mm (1.5 in to 4.5 in) diameter).

**Frequency:** 10.525 GHz (USA) conforms to F.C.C. Part 15. F.C.C. Identifier BIH9CP SDI-76. CE-rated international frequencies of 10.587 GHz, 9.900 GHz and 9.470 GHz available by special order.

**Range:** 15 m x 12 m (50 ft x 40 ft).

**Input Voltage:** 10.5 to 20 VDC.

**Current Consumption:** 130 mA ±20 @ 12 VDC  
85mA ±20 @ 24 VDC

**Alarm Output / Tamper Switch:** SPDT-Form C.

**Relay Contact Rating:** 0.1A @ 50VDC.

**Operating Temperature:** -34°C to 65°C (-30°F to 150°F), 0 to 100% relative humidity.

**Dimensions:** 235 mm L x 152 mm W x 108 mm H (9.25" L x 6" W x 4.25" H).

**RF Power Density:** 120 uW/cm<sup>2</sup> max.

**Target Size:** 0.3 m<sup>2</sup> (3.5 ft<sup>2</sup>) reflected size.

**Target Velocity:**

**MS15:** Man-size target or larger moving at 0.04 m/sec to 1.3 m/sec (0.13 ft/sec to 4.4 ft/sec).

**MS16:** Man-size target or larger moving at 0.04 m/sec to 4.5 m/sec (0.13 ft/sec to 14.7 ft/sec).

**Weight:** 4.54 kg (10 lb)

**Shipping Weight:** 5.44 kg (12 lb)



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