

# Series 16000

## Microwave Intrusion Detection Sensor



Field selectable Antenna Patterns

Easy Installation

Field Adjustable

Tamper proof

Audible Sidetone

Low Current  
Operation

FCC Certified

(Formerly Racon Product)

The Series 16000 microwave sensor is a volumetric perimeter intrusion detection system. Designed for high performance, cost effective operation and ease of installation, the Series 16000 microwave sensors provide an extremely high probability of detection (Pd) with a low nuisance alarm rate (NAR) in nearly any situation.

The Series 16000 microwave sensors utilize the most advanced microwave radar technology coupled with field configurable planar array antenna elements for short (30 m/100 ft) wide angle detection (ideal for gate protection), mid range (106 m/350 ft) or long range (242m/800 ft) full perimeter volumetric detection applications. Actual site specific installation and/or operational detection coverage is easily determined with built-in audio sidetone that is proportional to radar target size and velocity.

The Model 16001 is the version for standard commercial use.

The Model 16004 version of the sensor system is subjected to a completely documented and traceable acceptance test program. The systems are fully tested at high and low temperature extremes and are operationally “burned in” at high temperature to ensure field reliability.

The advanced electronic processing design features six field selectable operating channels with extremely high adjacent channel rejection to allow multiple radar operation in a highly congested RFI area. The phase lock loop signal processing allows for alarming on the dynamic target multipath signal, loss or increase of transmitted signal, and jamming attempts. These features, combined with low current operation from any 12 VDC source make the Series 16000 Microwave Sensor a truly exceptional performer.



## SPECIFICATIONS

### GENERAL

#### Equipment Supplied:

- 1 ea. Transmitter Unit
- 1 ea. Receiver Unit
- 2 ea. Mounting Hardware Sets
- 1 ea. Installation & Operation Manual

#### Range:

- 3 to 183 m (10 to 600 feet)

#### Crawl Detection:

- Less than 5 cm (1") per second

#### Detection Method:

- Loss or increase of transmitter signal
- Dynamic multipath
- Frequency jamming

#### Frequency:

- 10.525±.025GHz X-Band (std)
- Optional export/special frequencies available

#### Operating Channels:

- 6 field selectable

#### Operating Power Requirements:

- 11VDC to 15VDC
- 150mA total system

#### Operating Temperature:

- -40°C to +70°C (-40°F to +158°F)

#### Connections Available:

##### Transmitter:

- Power; self-test; tamper; ground

##### Receiver:

- Power; alarm; tamper; audio sidetone; reset; ground

#### Dimensions:

- 31cm x 16cm x 8 cm  
(12.25"H x 6.25" W x 3.375" D)

#### Weight:

- 0.9 kg (2 lbs.)

#### Color:

- Beige

#### Mechanical:

- High impact plastic housing
- Designed for all weather outdoor or indoor environments
- Both universal wall swivel and 3.5 in O.D. mounting hardware included.
- Unit may be replaced without requiring system realignment
- Internal RFI shielding

### TRANSMITTER

#### FCC Certification:

- FCC Identifier: FL916000

#### Modulation:

- Class A2-6 field selectable subcarriers

#### Tamper Output:

- Both N/C or N/O  
(1A, 28VDC maximum)

#### Self-Test:

- Accepts either 5 to 15VDC or grounding logic control input

#### LED Indicator:

- "Power On"

#### Adjustments:

- Channel select switch
- Self-test radar target cross section amplitude

### RECEIVER

#### Microwave Bandpass:

- Greater than 60dB adjacent subcarrier rejection

#### Demodulation:

- Class A2-6 field selectable subcarriers

#### Tamper Output:

- Both N/C and N/O  
(1A, 28VDC maximum)

#### Alarm relay output:

- Sealed DPDT (2 each N/C and N/O contacts: 2A, 28VDC maximum)

#### Audio Sidetone Output:

- Balanced 600 ohms proportional to target velocity and size for local or remote monitoring

#### Remote Alarm Reset Circuit:

- Accepts 5 to 15VDC or grounding logic control input

#### LED Indicators:

- "Power On;" "Wrong Channel;" "Alarm"

#### Adjustments:

- Channel select switch
- Multipath sensitivity
- Alarm duration
- Latched/timed alarm relay
- Range select

#### Alignment:

- Test point for optimizing system signal with voltmeter
- Test Point for verifying detection coverage with performance monitor

#### Options:

- 115 VAC uninterruptible power supply (with battery)

\* Specifications subject to change without prior notice.



ISO 9001:2000  
CGSB Registered  
Certificate 95711

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