



## MPS-14000

### Narrow-beam bistatic microwave intrusion detection system

**DESCRIPTION** – This long range high performance bistatic microwave provides invisible volumetric perimeter protection for a distance up to 457 m (1500 ft). The MPS-14000 detects intruders in outdoor environments and is unaffected by rain, snow, wind or other sources of nuisance alarms. The low current operation makes the MPS-14000 reliable and cost-effective.

**APPLICATION** – The complete microwave system consists of a transmitter, receiver and mounting hardware. The transmitter and receiver are pole-mounted and installed facing each other to form an approximate cylindrical zone of detection. The system can be used by itself to provide intruder detection around a complete perimeter or as a gap-fill solution where another security system acts as the main perimeter sensor.



### Features

- Zone length up to 457 m (1500 ft.)
- Narrow beam width (3.5°)
- Six operating channels
- Remote self-test
- Audio output for set-up and maintenance

### Benefits

- Easy-to-install
- Cost-effective
- High Probability of detection (Pd)
- Low Nuisance Alarm Rate (NAR)
- High reliability
- Versatile
- Low current
- High degree of immunity to Radio Frequency Interference (RFI)
- Worldwide proven performance
- Model 14032 is type-approved by the US Air Force BISS as AN/GSS-37
- Conformally coated Printed Wiring Boards (PWBs) provide long-term reliability in all outdoor environments

### Markets

- Prisons / correctional facilities
- Military installations
- Critical commercial / industrial assets
- Utilities
- Petrochemical industry
- Airports

# Technical Specifications

## How it works

The MPS-14000 microwave sensors use the field-proven E-Plane vertical antenna polarization and 3.5 degree beam pattern. The advanced electronic processing design features six field-selectable operating channels. These, along with extremely high adjacent-channel rejection, provide for the operation of multiple MPS-14000 sensors in a highly-congested RFI area. The Phase Locked Loop (PLL) signal processing allows for intruder detection, not just on a reduction or increase in signal from the transmitter, but also by the sensing of Doppler shifted signals due to intruder motion. The complete loss of the transmitted signal and jamming attempts are also detected.

Actual site-specific installation and / or operational detection coverage is easily determined with built-in audio side tone that is proportional to radar target size and velocity.

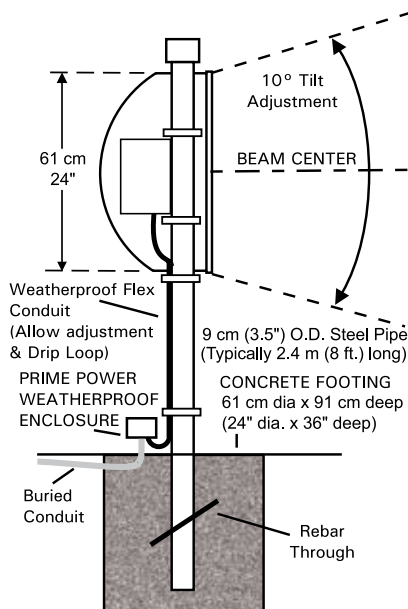
## Options

A 12 VDC standby battery kit.

The Model 14101 is the version for standard commercial use.

The Model 14104 version is subjected to a completely documented and traceable acceptance test program. The system is fully tested at high and low temperature extremes and is operationally "burned in" at high temperatures to ensure field reliability.

The long range narrow beam MPS-14000 is a perfect complement to the MPS-4100 or MPS-16000 bistatic microwave sensor.



**MPS-14000 typical installation**

**RANGE:** 8 m to 457 m (25 to 1500 ft.)

**DETECTION PATTERN WIDTH:** 0.6 m to 12 m (2 to 40 ft.)

**VELOCITY RESPONSE:** Down to 2.5 cm (1 in.) per second

**PERFORMANCE:** Greater than 99% Probability of detection (Pd) when properly installed

**DETECTION METHOD:** Loss or increase of transmitted signal, detection of Doppler-shifted signal from intruder motion, radio-frequency jamming or tampering

**FREQUENCY:**

- 10.525 GHz

**OPERATING CHANNELS:** 6 field-selectable channels

**ANTENNA PATTERN:** Single lobe, approx. 3.5° horizontal and vertical, both transmitter and receiver

**POWER REQUIREMENTS:**

- 10.5 VDC to 15 VDC input
- 100 mA total system
- 70 mA transmitter
- 30 mA receiver

**OPERATING TEMPERATURE:** Model 14101: -30°C to +60°C (-22°F to +140°F)  
Model 14104: -40°C to +66°C (-40°F to +150°F)

**CONNECTIONS AVAILABLE:** Transmitter: self-test, tamper, ground  
Receiver: power, alarm, tamper, audio, ground

**DIMENSIONS:**

**Approximately:** 61 x 76 x 28 cm (24 x 30 x 11 in.) both units

**Weight:** 8kg (18 lbs.) for transmitter or receiver unit

**Shipping weight:** 29.5 kg (65 lbs.) total 2 cartons each  
84 x 67 x 29.5 cm (33 x 26.5 x 14 in.)

**MATERIAL:** Beige metal enclosures with dark brown antenna cover

**MECHANICAL:** All aluminum housing and stainless steel hardware - designed for all-weather outdoor environment. 8.9 cm (3.5 in.) O.D. pipe mounting hardware included

**TRANSMITTER:**

**FCC certification:** FCC Identifier: FL914100

**Tamper output:** NC or NO, 1A: 28 VDC max.

**Remote self-test input:** Accepts either 5 to 15 VDC or ground

**Operating current:** 70 mA max. at 12 VDC

**LED indicator:** "Power ON"

**Adjustments:** Channel select (6), self-test amplitude

**RECEIVER:**

**RF bandpass filter:** Greater than 60 dB adjacent band rejection

**Operating current:** 30 mA maximum at 12 VDC

**LED indicators:** "Power On", "Wrong Channel", "Alarm"

**User adjustments:** Sensitivity, alarm duration, channel select, range select, alarm latch / timed

**Alarm circuit output:** Sealed DPDT (two sets of NO & NC), contacts rated 2 A @ 28 VDC

**Tamper circuit output:** NO and NC, 1 A @ 28 VDC

*Specifications are subject to change without prior notice.*

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**International**  
Carp, Ontario, Canada  
Tel: +1 (613) 839-5572  
info@senstar.com

**United Kingdom**  
Worcestershire, UK  
Tel: +44 (0) 1386 834433  
senstaruk@senstar.com

**Europe**  
Markdorf, Germany  
Tel: +49 7544-95910  
info@senstar.de

**United States**  
Fremont, CA, USA  
Toll Free: +1 (800) 676-3300  
mkt@msi-usa.net

**Latin America**  
Cuernavaca, México  
Tel: +52 (777) 313 0288  
info@senstarstelar.com.mx

**Brazil**  
São Paulo, Brasil  
Tel: +55 (11) 4195-1020  
info@senstarstelar.com.br