

# RTMS<sup>®</sup> G4<sup>™</sup>

The non-intrusive, radar-based RTMS<sup>®</sup> (Remote Traffic Microwave Sensor) G4<sup>™</sup> is an advanced sensor for the detection and measurement of traffic on roadways. It is all-weather accurate and virtually maintenance-free. Best of all, RTMS is renowned for long-term worry-free reliability.

The RTMS G4 is a small roadside pole-mounted radar, operating in the microwave band. Simultaneously, the sensor provides per-lane presence as well as volume, occupancy, speed and classification information in up to 12 user-defined detection zones. Output information is provided to existing controllers via contact closure and to other computing systems by serial or IP communication port or by an optional radio modem. A single RTMS can replace multiple inductive loop detectors and the attendant controller.

The G4's all-in-one concept combines a high resolution radar and an optional video camera capable of capturing the traffic scene and a variety of communications options including wireless solutions all in a single enclosure. This sleek cabinet free detection station is simple to integrate into any system whether urban signal control or highway traffic management.



## APPLICATIONS

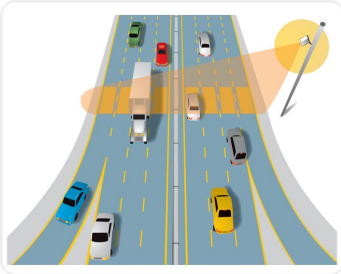
- > Mid-block detection for intersections (system, advance detection)
- > Freeway traffic management and incident detection systems
- > Traveler information and travel time prediction
- > Ramp metering
- > Queue detection
- > Work zone safety systems
- > Permanent and mobile traffic counting stations
- > Enforcement of speed violation
- > Loop replacement (single or dual loop emulation)

## FEATURES

- > Provides presence indication and accurate measurements of volume, occupancy, speed and classification in up to 12 separate zones (lanes) up to 76 meters (250 feet) away
- > Fully programmable to support multiple applications using simple intuitive software on a Notebook PC
- > True-presence: detects stationary and fast moving vehicles; single or dual loop emulation
- > Reliable all-weather performance
- > Backwards compatible with all previous RTMS Protocols

## BENEFITS

- > Speedy, safe installation, typically on existing road-side poles, with no traffic disruptions
- > Compatible with all RTMS integrated solutions including detection station, counting, urban traffic control, event reporting, data collection
- > Highly flexible: suitable for any road and pole type, with various built-in power and communications options, including contact pairs, NTCIP, TCP/IP, radio modems and a video camera
- > Low life-cycle cost with no routine maintenance procedures and high reliability. Typical MTBF – 13 years
- > Easy to calibrate by fast, automatic set-up wizard and to verify by optional camera
- > User upgradeable and expandable



## SPECIFICATIONS

### Area Coverage

The RTMS field of view covers the area defined by:

- > Elevation angle
  - 50 degrees
- > Azimuth
  - 12 degrees
- > Range
  - 0 to 76 meters (0 to 250 feet)

### Measurement Resolution

- > Detection zones
  - up to 12 zones
- > Range (increment)
  - 0.4 m (1.3 ft)
- > Zone width
  - 2 to 7 m (7 - 20 ft)
- > Time events
  - 1.3 mSec

### Frequency Bands

- > Currently available in K band, model G4 operates at high resolution in the 24 GHz band
- > DSS radio modems offered as built-in option in either 900 MHz or 2400 MHz bands

### Certification

- > FCC
- > CE
- > Canadian CSA C108.8 - M1983

### Interface

- > Single MS crimp multi-pin connector provides multiple options of power and output signals
- > Data: volume, occupancy, speed, headway, x6 classifications
- > Standard 8Mb built-in memory for data collection
- > Optional 16 built-in isolated contact pairs rated for 100mA at 350 volts AC for presence indication
- > Isolated serial RS-232/RS-485 port provide per-vehicle measurement data, presence event data or statistical
- > Optional second port or TCP/IP-UDP
- > NTCIP 1209 protocol option

- > Built-in wireless option for contact pairs or data transmission into small wireless networks:
  - DSS: Frequency Hopping Spread Spectrum
  - GPRS or CDMA
- > Built-in video camera option for remote verification and event triggering with IP or wireless communications

### Mechanical

- > Unit is encased in a rugged, water-tight NEMA 4X IP-65 polycarbonate enclosure
- > Mounted on a universal bracket, enabling securing of unit to poles, tilting in both axes, and quick locking
- > Size
  - 21 x 21 x 16 cm (8 x 8 x 6 inches)
- > Weight
  - 1.5 Kg (3.5 lbs)

### Power

- > Operates on 12 - 24 volt AC or DC @ 3\* Watts; 115 or 220 VAC options
  - > Surge protection IEC 1000-4-5 and EN 61000-4-5 built-in on all external connections
- \* without additional options

### Maintainability

- > Ultra reliable: MTBF (mean time between failures) designed for 114,000 hours (13 years)
- > Shop repairable and expandable
- > Self-test diagnostic software
- > 15 minute replacement time
- > User field level firmware upgrade

### Environmental Conditions

- > Temperature range
  - -40° to +75°C
- > Up to 95% relative humidity
- > Vibration
  - 0.5 g up to 300 Hz
- > Shock
  - 10 g 11 mSec half sine wave
- > Wind
  - Up to 100 mph

## Contacts

### Image Sensing Systems, Inc. Headquarters

500 Spruce Tree Centre  
1600 University Avenue West  
St. Paul, Minnesota 55104-3825 USA

Phone +1.651.603.7700  
Fax +1.651.603.7795  
stpaul@imagesensing.com  
imagesensing.com

### Image Sensing Systems Canada Limited

150 Bridgeland Ave, Suite 204  
Toronto, Ontario M6A 1Z5  
Canada

Phone +1.416.785.9248  
Fax +1.416.785.9332  
info@imagesensingca.com  
imagesensingca.com

### Flow Traffic Limited

Suite 01, 18th Floor, Queen's Place  
74 Queen's Road Central  
Hong Kong

Phone +852.2827.1123  
Fax +852.2827.0056  
hongkong@flowtraffic.com  
flowtraffic.com.cn

### Image Sensing Systems Europe Limited

Unit 7, Harley Industrial Park  
Great Paxton  
St. Neots, Cambridgeshire  
PE19 6TA United Kingdom

Phone +44.1480.213820  
Fax +44.1480.213822  
enquiries@imagesensingeu.com  
imagesensing.eu

ISO 9001: 2000 Registered

**imagesensing.com**

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