

RTMS® G4™

The non-intrusive, radar-based RTMS® (Remote Traffic Microwave Sensor) G4™ 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 m (250 ft) 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
- > 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

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
- > Zero setback requirement means any pole is suitable for installation
- > Low power requirement allows solar power operation and great savings



SPECIFICATIONS

Area Coverage

The RTMS detection field of view covers the area defined by:

- > Elevation angle
 - 50 degrees
- > Azimuth
 - 12 degrees
- > Range
 - 0 to 76 m (0 to 250 ft)

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

Regulatory

- > FCC
- > CE EN 60215, EN 301 489-1, EN 301 489-3, EN 300 440-1, EN 300 440-2
- > Canadian CSA C108.8 - M1983

Interface

- > Single MS crimp multi-pin connector provides multiple options of power and output signals
- > Data: volume, occupancy, speed, gap or headway, six vehicle classes
- > 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 and speed
- > Isolated serial RS-232/RS-485 port provide per-vehicle measurement data, presence event data or statistical
- > Optional Bluetooth remote setup and verification
- > 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

Mechanical

- > Unit is encased in a rugged, water-tight NEMA 4X IP-67 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 in)
- > 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 (-40° to 167°F)
- > 100% relative humidity
- > Vibration
 - 0.5 g up to 300 Hz
- > Shock
 - 10 g 11 msec half sine wave
- > Wind
 - Up to 161 km/hr (100 mph)

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