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 port, IP communication port or by an optional radio modem. A single RTMS can replace multiple inductive loop detectors and the attendant controller.

The G4 combines a high resolution radar 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
- Ramp metering
- Queue detection
- Work zone safety systems
- Permanent and mobile traffic counting stations
- Loop replacement (single or dual loop emulation)

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, and flow monitoring
- Highly flexible: suitable for any road and pole type, with various built-in communications options, including contact pairs, radio modems and a video camera with TCP/IP
- Zero setback capability means most poles will be suitable for installation
- Low power requirement allows continuous operation with a cost-effective solar system

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 setup wizard
- Bluetooth remote setup and verification
Specifications:

Area Coverage (Radar)
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
- **Detection range (increment)**: 0.4 m (1.3 ft)
- **Zone width**: 2 to 7 m (7 - 20 ft)
- **Time events**: 1.3 msec

Frequency Bands
- **K band, model G4** operates at high resolution in the 24 GHz band

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 type connector** provides multiple options of power and output signals
- **Data**: volume, occupancy, speed, gap or headway, six vehicle classes, 85th percentile
- **8MB built-in memory for data collection**
- **Optically isolated configurable RS232/RS-485 port provides vehicle presence, per vehicle and statistical data**
- **Bluetooth communication for setup, calibration and data access**

Configuration Options
- **Base unit** (as configured above)
- **Option 1**: Base unit plus second serial port (RS-232/422)
- **Option 2**: Base unit plus DSS radio modem (900 MHz band)
- **Option 3**: Base unit plus IP Camera with TCP/IP
- **Option 4**: Base unit plus integrated TCP/IP module

*Note: All 3 options include 8 optically isolated output pairs rated for 100mA and 350V for presence indication and speed*

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 VAC or VDC
  - **3W max standard**
  - **12W max with IP camera option**
- **Surge protection** IEC 1000-4-5 and EN 61000-4-5 built-in on all external connections

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**
- **Firmware field upgradable**

Environmental Conditions
- **Temperature range**: -40° to +74°C (-40° to 165°F)
- **Vibration**: 0.5 g up to 300 Hz
- **Shock**: 10 g 11 msec half sine wave
- **Wind**: Up to 161 km/hr (100 mph)
- **IP 67 compliant**

Warranty
- **Two-year warranty**