

# RTMS® Sx-300



The non-intrusive, radar-based RTMS Sx-300 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, Sx-300 is renowned for long-term worry-free reliability.

The RTMS Sx-300 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 TCP/IP communication port. A single radar can replace multiple inductive loop detectors.

The Sx-300's all-in-one concept combines a high-resolution radar and a variety of communications options 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.

## BENEFITS

- Fast, safe installation, 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 communication options, including contact pairs and TCP/IP
- Zero Setback™ feature means any pole is suitable
- Low power requirement allows low cost solar power operation

## 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
- Low life-cycle cost with no routine maintenance procedures and high reliability. Typical MTBF – 10 years or 90,000 hours
- Easy to calibrate by fast, automatic set-up wizard

## APPLICATIONS

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



# RTMS Sx-300

## SPECIFICATION

### Average Coverage (Radar)

The Sx-300 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 Sx-300 operates at high resolution in the 24 GHz band

### Regulatory

- FCC
- CE ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 301 489-1, ETSI EN 301 489-3, ETSI EN 301 489-17
- Canadian CSA C108.8 - M1983

### Interface

- Single MS type connector provides communications and output signals
- Data: volume, occupancy, speed, gap or headway, six vehicle classes, 85th percentile
- 8MB built-in memory for data storage
- 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 TCP/IP

\*Note: Option 1 includes 8 optically isolated output pairs rated for 100mA and 24VDC for presence indication and dual-loop speed

### Mechanical

- Unit is encased in a rugged, water-tight NEMA 4X & IP-67 polycarbonate enclosure
- Universal mounting bracket mountable on any structure. Tilts on three axes and is lockable.
- Size  
23 x 18 x 17 cm (9 x 7.25 x 6.75 in)
- Weight  
1.02 kg (2.24 lbs) without mount

### Power

- Operates on 12 - 24 VAC or VDC  
3.6W max standard  
12W max with IP camera option
- EN 61000-4-5

### Maintainability

- Ultra-reliable: MTBF (mean time between failures) designed for 90,000 hours (10 years)
- Self-test diagnostic software
- Quick replacement
- Firmware field upgradable

### Environmental Conditions

- Temperature range  
-40° to +74°C (-40° to 165°F)
- NEMA TS2: 2003
- Wind  
Up to 190 km/hr (120 mph)
- IP 67 compliant

### Warranty

- Five-year warranty

## CONTACTS

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