

# CARSENSE 303

## MAGNETORESISTIVE VEHICLE DETECTOR

### Applications

The CarSense™ 303 features advanced 3-axis, magnetoresistive sensing technology. The sensor measures Earth's magnetic field and responds to disturbances caused by ferrous objects. The CS303 combines this exciting new technology with a field-proven hardware platform to produce a high-sensitivity, compact, and cost-effective solution for reliable vehicle detection. Three sensing elements provide magnetic field measurement in the X, Y and Z axes, improving detection sensitivity.

- Three-dimensional presence detection of vehicles
- Select X, Y and/or Z axis independently
- Stand-alone sensor stores background and settings in a non-volatile memory
- ULTRAMETER™ sensitivity display for easy set-up and installation
- Remote control module for programming and additional relay contact output
- Fast response for high-speed detection
- Easy, low-cost installation
- Logic Interface available for extended range, directional logic and more
- **NEW...DETECT-ON-STOP™** or (DOS®) feature will allow detection only when a vehicle has come to a complete stop near the sensor. This is a worldwide unique feature to EMX detectors. It is a major advantage if you want to ignore cross traffic in tight spaces.

In contrast to the multiple cuts and corner reliefs required for the installation of inductive loops, the small size of the detector allows for easy installation in pavement (below grade) with straight saw cut resulting in cost savings on labor and materials. The rugged sensor is also suitable for above grade installations, making it ideal for use in confined areas or hidden in non-ferrous architectural components for security purposes.

# CS303



**EMX**

INDUSTRIES

**EMX Industries, Inc.**

4564 Johnston Parkway, Cleveland, Ohio 44128

P. 800 426 9912 F. 216 518 9884

**Sales Inquiries:** [salesupport@emxinc.com](mailto:salesupport@emxinc.com) **Technical Support:** [technical@emxinc.com](mailto:technical@emxinc.com)

[www.emxinc.com](http://www.emxinc.com)

## Applications

- Boom gate control
- Drive-thru and car wash vehicle detection
- Truck/lorry detection at loading docks
- Vehicle counting in car park and toll booths
- Truck and tow-motor detection for industrial gates and doors

## Sensitive area vs. Sensitivity adjustment

Area (ft.)	Height at the center (ft.)	Sensitivity (adjustment setting)
1x1	1	2
2x2	2	3
3x3	3	4
4x4	4	6
5x5	5	7



CS303-C-1



CS303-DB-XX



CS303-FP-XX



CS303-L

## Technical Data

### Sensing technology

### Sensitivity

### Axis sensitivity

### Environmental tracking

### Local magnetic field nulling

### Detection range

### Power/fault indicator

### Detect indicator

### Pulse/presence

### Detect-On-Stop

### Outputs

### Output ratings

### Connection

### Operating environment

### Housing

### Environmental rating

### Power supply

### Current draw

### Supply protection circuitry

### Dimensions

### Weight

## Control Unit

## Control Unit & Sensor

## Sensor

3-axis magnetoresistive

10 levels: 0-9

512 counts/gauss (typical)

Automatic compensation

Averages local field signature in any sensor orientation

1.5m (5ft.)

Green LED

Red LED

Allows the relay/NPN output to send either a pulse output or have constant presence

Requires vehicle to stop for a minimum of 1 second (1-2s typical)

SPDT relay/NPN (open collector)

NPN (open collector)

Relay: 1A @ 24VDC...120VAC NPN: 50 mA (max)

50 mA

10 position screw terminal

5 conductor direct burial

-40° C...82° C (-40° F...180° F)  
0...95% relative humidity

ABS

DB: PVC  
FP: Polyolefin

IP30

IP69K

12-30 VDC and 24 VAC

12-30 VDC

40 mA max

10 mA max

Reverse polarity and fuse protected

76mm (3.0") x 22mm(0.9") x 70mm(2.75")

DB:102mm (4.0") x 27mm (1.0")  
FP: 80mm (3.0") x 20mm (0.8") x 9mm (0.35")

68g (0.15 lbs.)

DB: 43g (0.09 lbs.)  
FP: 23g (0.05 lbs.)

## Ordering Information

- CS303-C-1 Control Unit
- CS303-DB-50 Direct Burial Sensor, Probe, 50'
- CS303-DB-100 Direct Burial Sensor, Probe, 100'
- CS303-FP-50 Direct Burial Sensor, Flat Pack, 50'
- CS303-FP-100 Direct Burial Sensor, Flat Pack, 100'
- CS303-L Logic Interface, includes black 11 pin socket base DIN rail mount

WARRANTY EMX INC. the product described herein for a period of 2 years under normal use and service from the date of sale to our customer. The product will be free from defects in material and workmanship. This warranty does not cover ordinary wear and tear, abuse, misuse, overloading, altered products, or damage caused by the purchaser from incorrect connections, or lightning damage. There is no warranty of merchantability. There are no warranties expressed, implied or any affirmation of fact or representation which extend beyond the description set forth herein. EMX Inc. sole responsibility and liability, and purchaser's exclusive remedy shall be limited to the repair or replacement at EMX's option of a part or parts not so conforming to the warranty. In no event shall EMX Inc. be liable for damages of any nature, including incidental or consequential damages, including but, not limited to any damages resulting from non-conformity defect in material or workmanship. Rev 1.7 12/14/17

