MagSense

Vehicle detection and counting system

MOBILISIS®

Mobilisis offers high-quality applications based on the MagSense magnetic field sensor system. Its use is very efficient and helps maximizing profit.

Thanks to new patented detection loop consisting of magnetic field sensors connected to high-speed network, Mobilisis opens new possibilities in detection and counting vehicles with MagSense products, nonetheless they are parked or are moving at the speeds up to 220 km/h.

MagSense is a system that offers high returns on investment (ROI), fast time-to-market, and low total costs of ownership (TCO).

Single space detection

NEW DIMENSION IN VEHICLE DETECTION AND COUNTING

If you need a reliable information from any parking lot at any time, weather or surface condition, or if you need a system to transmit up-to-date information about occupancy of any parking lots to an online system, MagSense is a solution for you.

It reliably detects wherever a vehicle occupies a parking space or when the parking space becomes available again. Accurate time stamp record of each occupancy change is recorded and any overstaying time may be reported. It may be used to provide real time parking information about occupancy state (in the city or other outdoor parking areas). MagSense transfers precise real time parking data using a robust construction and 24/7 internet connection.
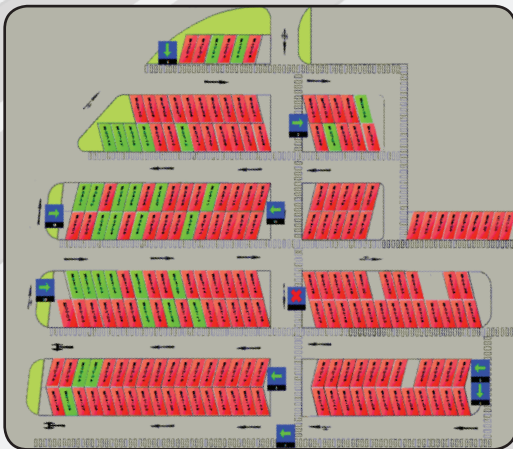
The data can be used to navigate drivers directly to the closest unoccupied parking space thus minimizing parking - searching traffic and increases traffic flow. MagSense is ideally suited for malls and airports especially when combined with "Online Parking Ticket Payment Systems" and "Parking Patrol Services".
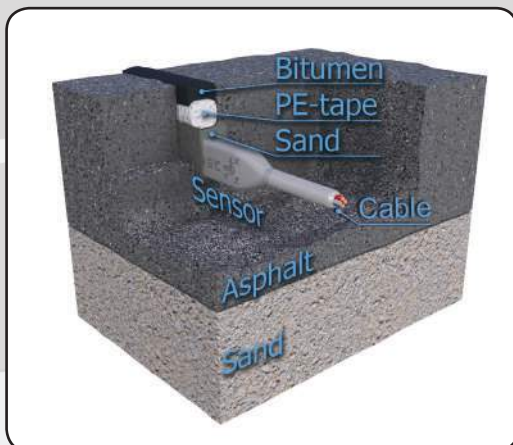
The small sensors can be easily embedded in the asphalt of each parking bay. Alternatively they can be installed in an empty conduit under the parking bay. They will be adopted in a sensor network, protected by patent law, minimizing the costs by reducing civil works. MagSense is a 3-axis magentic field sensor, which works with an adaptive in-field self-referencing control and expert-system. The decision logic ensures an accuray of the detection rate of more than 99%.

MAGSENSE

Enables the traffic counting as well as the occupancy detection of single parking space

Unlimited number of parking lots monitored

Preassembled or on-site assembly of sensors

Low operating power consumption

Equipment is robust and easy to integrate into existing IT infrastructure like Parking Guidance Systems

Minimum and low-cost maintenance

Traffic Counting

MAGSENSE MAKES SENSE

MagSense is the system that monitors occupancy of outdoor parking spaces and parking lots by in-ground sensors. The system is based on magnetic field technology and detects vehicles by measuring the changes static or moving vehicles cause to the Earth's magnetic field.
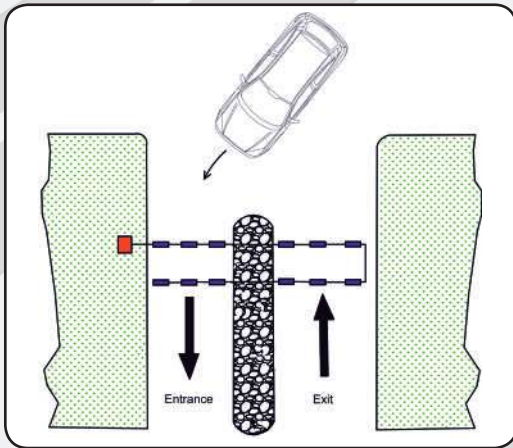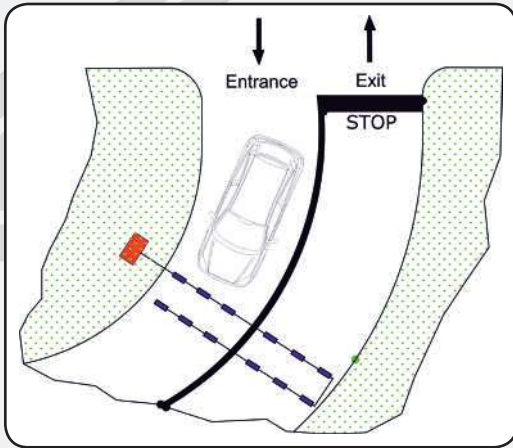
System is perfectly suitable for accurately counting vehicles on ramps and at the cross-sections of car parks and underground parking facilities. The MagSense sensor may be installed on the ceiling of the level below. This low-cost installation does not require micro – trenches to be cut into the ramp and it's easy to install several sensors below wide ramps.
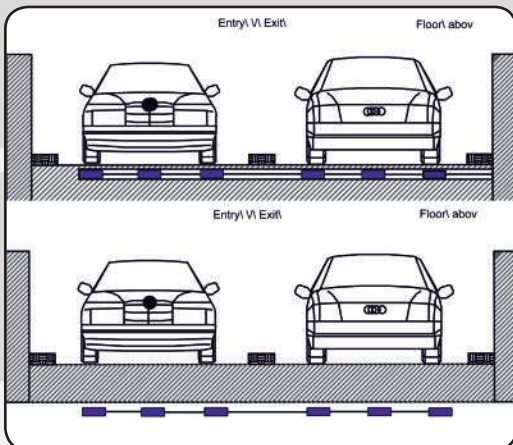
MagSense monitors vehicles on roads or parking areas, indoor or outdoor, either below ground or through the ceiling. Detection loop can be installed up to 500 mm below the driving surface.

Detection loop consisting of magnetic field sensors and robust cable connected using high-speed data BUS

May be used as vehicle counting loop detector or single parking space occupancy detector or even barrier detector loop

User defined length, count and space between sensors

Compact sensor size enables lying detection loop into asphalt by micro-trenching method

Wired connection enables no latency in communication and small power consumption

Due to complete eliminati of batteries maintenance - free operation

Best performance in counting vehicle by installing equipment on the ceiling of level below or even under a road bridge

Unaffected by ceiling material. Detection through concrete or steel if installed up to 500 mm below the driving surface

Enables installation without traffic detouring

Sensor Bus

NEW TYPE OF VEHICLE DETECTION LOOP
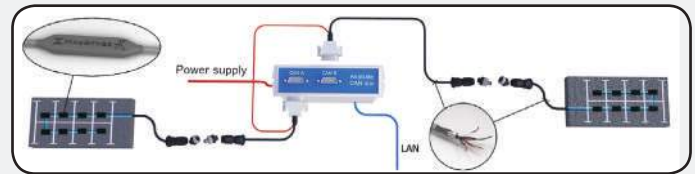
MagSense Sensor

Dimensions (L x H x W)	110 mm x 13,5 mm x 9 mm
Operating temperature	-10 to +65 °C
Protection	IP67
Color	gray or black
Weight	20 g
Operating voltage	6 – 16 V DC
Current consumption	10 mA @ 16 V
Communication	CAN bus, 125 kbps
Max sensors per line	100 @ 16 V
Max cable length	200 @ 16 V

MagSense Cable

MagSense Cable	1x2xAWG24 + 1x2xAWG22 (SHIELDED)
Cable diameter	9,2 mm
Outer jacket Special Blend	Polyvinylchlorid Basis (PVC)
Outer jacket color	blue (similar to RAL 5015)
Operating temperature range	-25 °C to +80 °C
Total weight	0,107 kg/m
Flame retardant	UL 1685 (CSA FT 4)
Oil resistance According	1581 Sec. 480 (60°)

Sensor cable with 3DTC Controller are used for small, cost-effective, stand-alone solutions on small parking facilities. On large parking facilities, CAN/ETHERNET gateways with Server driven software are used to build network of detection BUS-es.

Server side driven MagSense Analyser software is used for running detection logic delivering real time occupancy data with exact time stamp record for each parking space. High ranged software uses Web Service interface from MagSense Analyser in order to deliver data to Parking Guidance System or to generate statistics and customer reports.

CAN BUS sensor lines are made of oil and UV resistant cable and with sensors protected against electrostatic discharge up to 30 kV ensures high environmental resistance of system and minimizes ownership costs.

Remote sensor software (firmware) upgrade is supported. It features a smart failure detection and sensor diagnostic utility.

Universal controller is used for traffic counting or for single space detection

Various combinations and number of vehicle counting and detection loops are supported

Operation and configuration can be performed via the keypad in conjunction with a 2-line LCD display, or with a setup program for greater convenience

Data can be stored on local flash memory or transmitted to host via GSM data link

Detection and counting events monitoring over 2-line LCD display

Easy connection to dynamic traffic display. LDxx series supported

Universal interface for 3rd party systems providers

Firm update over OTA (over the air) supported

3DTC Controller

Tehnical data

Voltage supply	8-35V
Average power	4W
Current consumption	330 mA @ 12 V
Protection	Fuse 3A
Electrical connection	Screw terminals up to 2.5 mm2
Inputs/Outputs	6 x Input /4 x Output (software configurable) Analog / Digital / Impuls
Dimensions (WxHxD)	22.5 mm x 115.0 mm x 117.8 mm
GPRS (optional)	Class 10, PDU, SMS, Quadband SIM port / Embedded SIM External antenna
GPS (optional)	u-blox 7, External (MMCX) or internal antenna
CAN BUS	2x CAN BUS (CAN-H,CAN-L,POW, GND)
RS485 BUS	485-A, 485-B, Power, GND
Case	Polyamide, UL 94 V-2, DIN-rail 35 mm × 7.5 mm according to EN 60715, IP20
Operating temperature	-10°C do +65°C
Storage temperature	-20°C do +65°C
Interference emission	Class A (EN 55022)
Electromagnetic compatibility (EMC)	DIN EN 61326-1

YOU CAN COUNT ON ME

MagSense 3DTC controller enables various detection and counting methods.

MagSense 3DTC Controller is used for moving or stationary vehicle detection and counting. A significant reduction of the installation work is achieved due to use of integrated GPRS modem and embedded SIM card.

Operation and configuration can be performed via the keypad in conjunction with a two-line LCD display or with a setup program for greater convenience. That way, parameters such as number of detection loops, sensitivity and operation mode can be set.

A connection to higher-ranking systems or the other Parking Guidance Systems (e.g. the system visualization software or traffic signs or third party systems) is possible via the digital interface RS485, RS232, CAN or digital outputs.

The 3DTC comes in rail – mounting case, intended for installation on a DIN rail 35 mm × 7.5 mm according to DIN EN 60715. The screw terminals for the electrical connection are arranged on different levels.

Up to 4 buses for single-space vehicle detection sensors supporting. Up to 150 parking space sensors on one BUS supported.

Thanks integrated GPRS modem and embedded SIM card, Mobilisis offers its customers the fastest way for obtaining data from Cloud with no care about data transfer costs or Cloud costs.
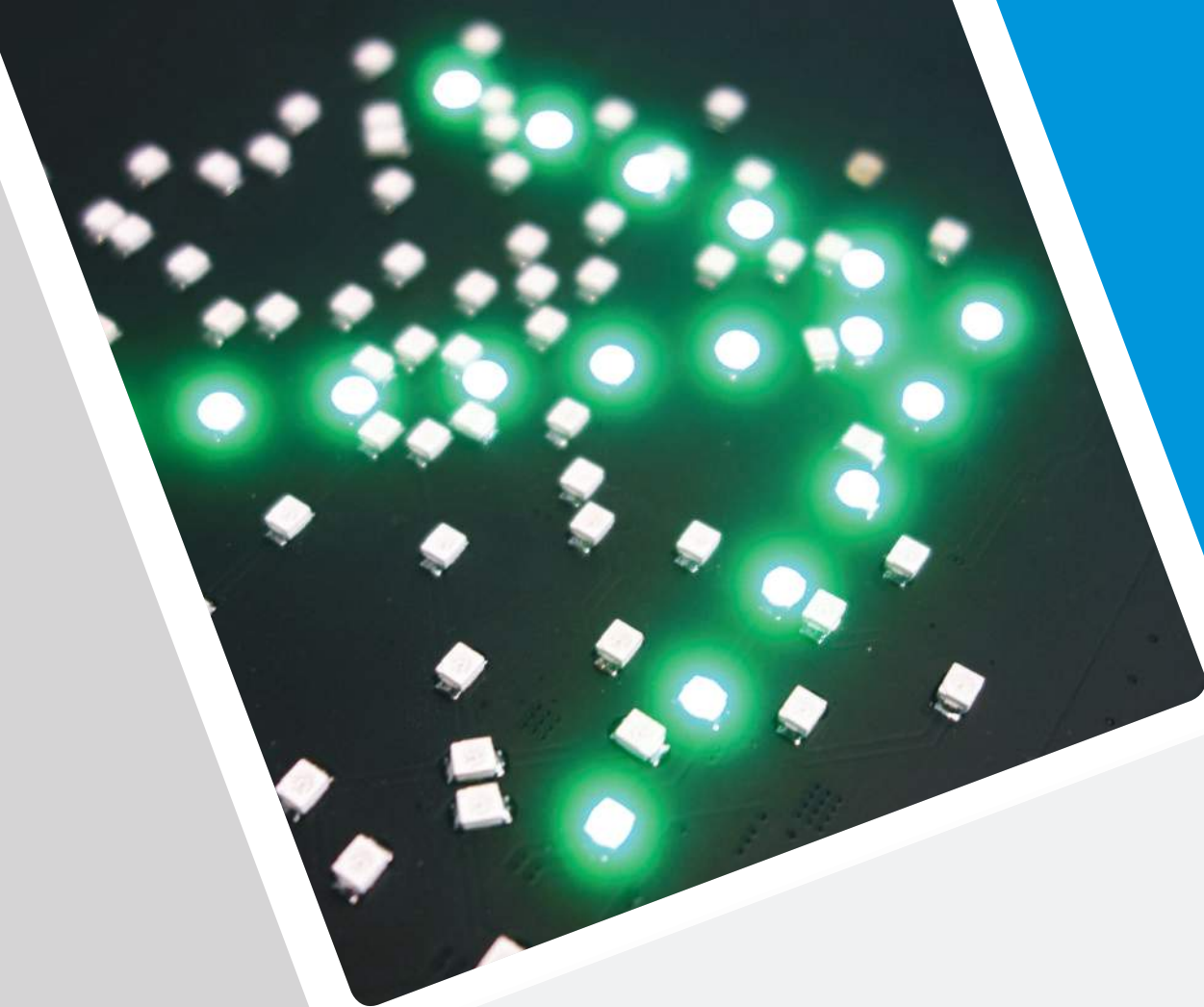
Ultra bright SMD LEDs

Wide voltage operation range 9-35 V DC

Small PCB thickness makes it ideal for various installation methods

Number of communication interfaces supporte: CAN, RS232, RS485

Directly compatible with MagSense 3DTC controller

Easy to combine all LDxxxx types into one single traffic sign

Built-in photo sensor for light intensity adjustment

Traffic Display

LD3SegV2

Voltage supply	9-35 V DC
Energy consumption (max)	450 mA @ 24 VDC
PCB dimensions (HxWxD)	200 x 340 mm x 30 mm
LED area dimensions (HxW)	125 x 265 mm
Weight	300 g
Operating temperature	-10 to +65 °C
Storage temperature	-20 to +65 °C
Communication	CAN (125 kbps), RS485 (9600 bps), RS232 (9600 bps)

LD4SegV2

Voltage supply	12- 35 V DC
Energy consumption (max)*	600 mA @ 24 V
PCB dimensions (HxWxD)	200 x 440 mm x 30 mm
LED area dimensions (HxW)	125 x 365 mm
Weight	400 g
Operating temperature	-10 to +65 °C
Storage temperature	-20 to +65 °C
Communication	CAN (125 kbps), RS485 (9600 bps), RS232 (9600 bps)

LDArrow

Voltage supply	9-35 V DC
Energy consumption (max)*	400 mA @ 24 VDC
PCB dimensions (HxWxD)	200 x 340 mm x 30 mm
LED area dimensions (HxW)	125 x 125 mm
Weight	200 g
Operating temperature	-10 to +65 °C
Storage temperature	-20 to +65 °C
Communication	CAN (125 kbps), RS485 (9600 bps), RS232 (9600 bps)

LD3SegV2

The LD3SegV2 is a LED display with three digits that may be used to show the number of unoccupied parking spaces. Every digit is made of seven segments, where each segment contains 5 LED diodes.
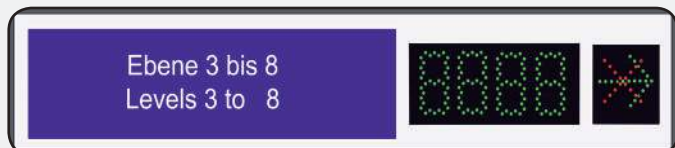
LD3SegV2 has an integrated photo sensor for adjustment of display light intensity depending on ambient lighting, which saves energy during the night.

LD3SegV2 is intended to be connected to peripheral devices by RS232, RS485, or CAN protocol.

Control of LED diodes is performed in a way that the device can detect failure of any of the segments. Also if in any segment any LED is short circuited, the rest of the segment will be unaffected.

LDArrow

The LDArrow is a LED display with the possibility to display green arrows in eight directions (all horizontal, vertical and diagonal possibilities) and a red cross. It has an integrated photo sensor for adjustment of display light intensity depending on ambient lighting, which saves energy during the night. Communication options are RS232, RS485 and CAN.

MOBILISIS®

Mobilisis d.o.o.
Varaždinska ulica 8.
II odvojak, Jalkovec
42000 Varaždin
Croatia
+385 42 311 777
info@mobilisis.hr
www.mobilisis.hr

Mobilisis GmbH
Theodor-Heuss-Straße 5
64646 Heppeniheim
Germany

+49 6252 79 29 002
info@mobilisis.eu
www.mobilisis.eu

Edition: May 2015.