comark

The HeArt of Traffic Detection

PARKING CATALOGUE

Company Profile

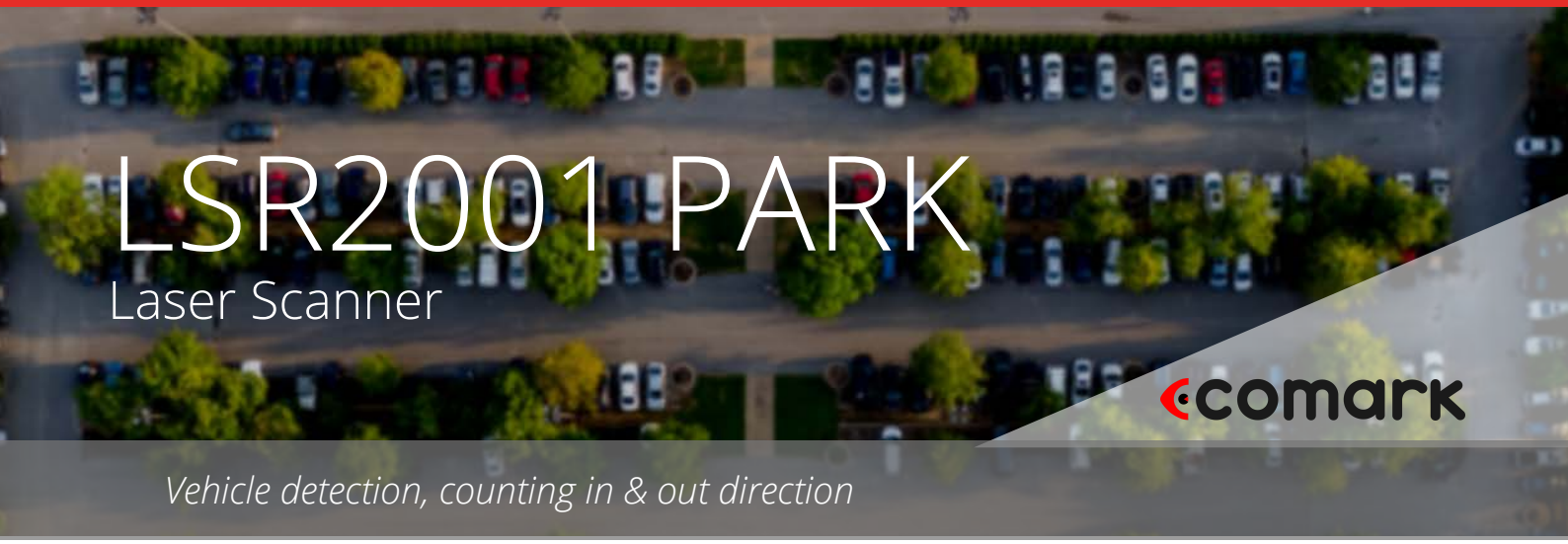
Founded in 1994, Comark is a company specialized in the field of traffic monitoring and parking systems. We take care of the design, development and manufacturing of products for the road traffic, parking areas and cycling lanes market.

To meet the highest standards of quality, Comark is certified ISO9001.

comark

Parking

LSR2001 PARK Laser Scanner Detector
LOMAG-01 Wireless Magnetic Detector
LOGAT-01 Wireless Gateway
NORA Wireless Magnetic Detector



LSR2001 PARK

Laser Scanner

Vehicle detection, counting in & out direction

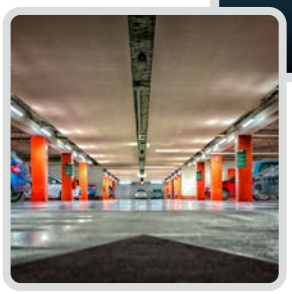
The LSR2001PARK detector uses the laser technology to detect vehicles that enter and/or exit a parking area. The emitted laser beam is used to scan on 4 parallel planes at an angle of 96 °. For each plane the sensor detects 274 points and is able to accurately identify the profile of vehicles.

The laser detector is able to:

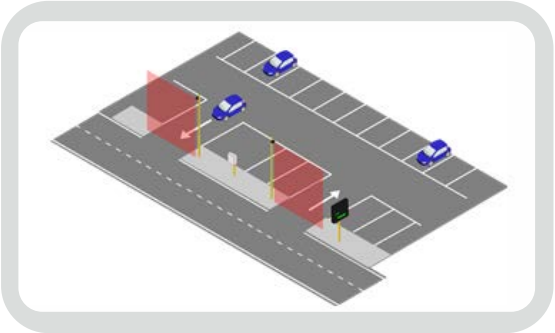
- Count vehicles
- Detect the transit direction
- Trigger an alarm when a vehicle is detected

Opposed to other simpler counting systems, the sensor LSR2001PARK is very accurate in detecting vehicles. The sensor performs continuous scans across the width of the parking entrance or exit.

The sensor must be installed on a pole at the side of the parking entrance or exit at a height between 2 to 5 meters. The sensor is equipped with an adjustable bracket which allows the precise orientation.



Technology	Laser scanner
Number of planes	4
Points per plane	274
Emitted Light	905 nm not visible
Laser class	Class 1
Range	30 mt
Scan angle	96°
Scan frequency	16 m sec
Power supply	12 or 24 Vdc
Protection	IP65
Temperature range	LSR2001: -20°C ÷ +50°C
	LSR2001T: -40°C ÷ +60°C



NORA

LoRaWAN Wireless Magnetic Detector

Single parking place, static detection with LoRaWAN standard

NORA

The Nora sensor is a magnetoresistive sensor that detects the variation of the earth's magnetic field on three axes as vehicles pass. The substantial and innovative difference compared to the LOMAG sensor is that the NORA sensor communicates with the gateway through Lorawan wireless technology. LoRaWAN has a very low battery consumption and a decidedly high communication range compared to traditional wireless communication technologies which are instead a short distance away.
Being a multiband sensor, its operation is guaranteed in almost all countries of the world and is able to communicate with any LoraWan gateway configured on the same band.
Unlike the Lora system which uses a proprietary communication protocol between sensor and gateway, the NORA sensor uses Lorawan standard technology and protocols for communication with gateways.

Transmission Frequency	EU868; AS923; AU915-928; CN_470_510; EU863-870; IN_865_867; KR_920_923
Battery life	5 - 6 years
Weight	320 g.
Power supply	1 or 2 lithium batteries
Communication distance	100 mt.
Protection	IP68
Dimension	50 (h) x80 x 90 mm.
Operating temperature	-20°C ÷ +50°C

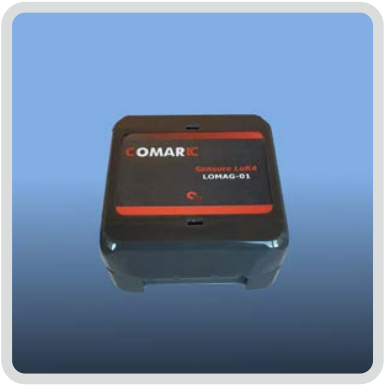
LOMAG-01 LOGAT-01

Wireless Magnetic Detector Wireless Gateway

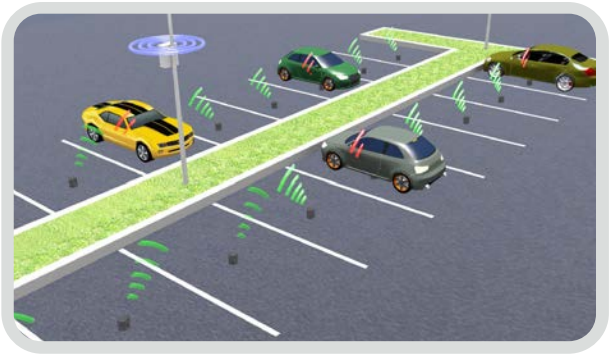
comark

Single parking place, static detection

LOMAG-01



The LOMAG sensor is based on the earth magnetic field detection which is modified when a vehicle passes by. It can be used to count and detect the vehicle's presence in roads and parking lots. The detectors have to be installed under the ground at a maximum depth of 15 cm.
People and other objects (that don't interfere with the magnetic field) are not detected. The detector is equipped with Lithium batteries and can achieve 5-8 years autonomy depending on the number of transmissions to be done.
A unique feature of the LOMAG sensor is given by the possibility of setting the sensitivity of each of the three axes allowing the detection area to be adapted to the parking's space (dimension) area. The algorithms of the sensor are designed to continuously detect the presence of vehicles and to filter magnetic interference of any kind.



LOGAT-01

The configuration of the sensor can be done through the LOGAT Lora gateway. It is possible to configure the sensor output (digital presence or analog magnetic value on the three axes), sensitivity and communication period.
Wireless networks are formed around a Gateway, which acts as the wireless network master device, and one or more Nodes (magnetic detectors). The communication between gateway and magnetic detectors is based on the Lora technology which is long range and low power. The gateway communicates with a maximum of 80 wireless detectors (depending of the parking layout). The data received from the detectors can be retrieved on the gateway using Modbus protocol on a RS485 line. The LOGAT gateway has also several digital outputs that can be used to show the status of some detectors.

LOMAG-01 LOGAT-01

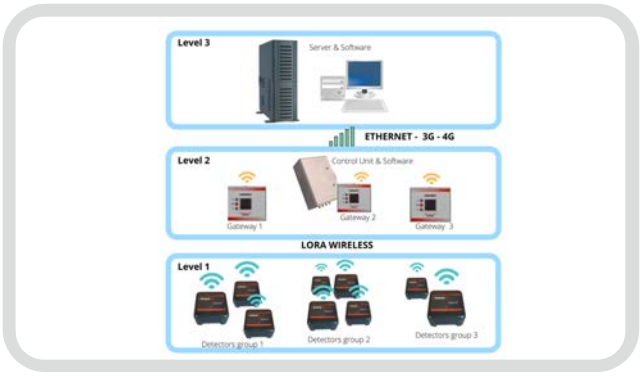
Wireless Magnetic Detector Wireless Gateway

comark

Single parking place, static detection

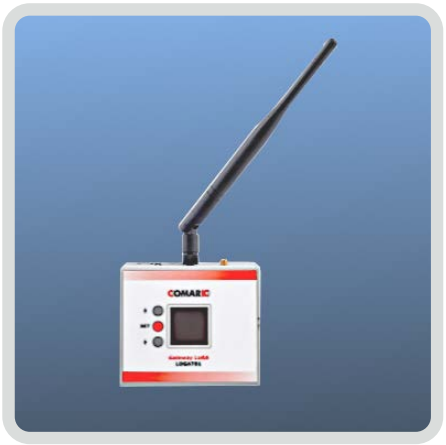
LOMAG-01

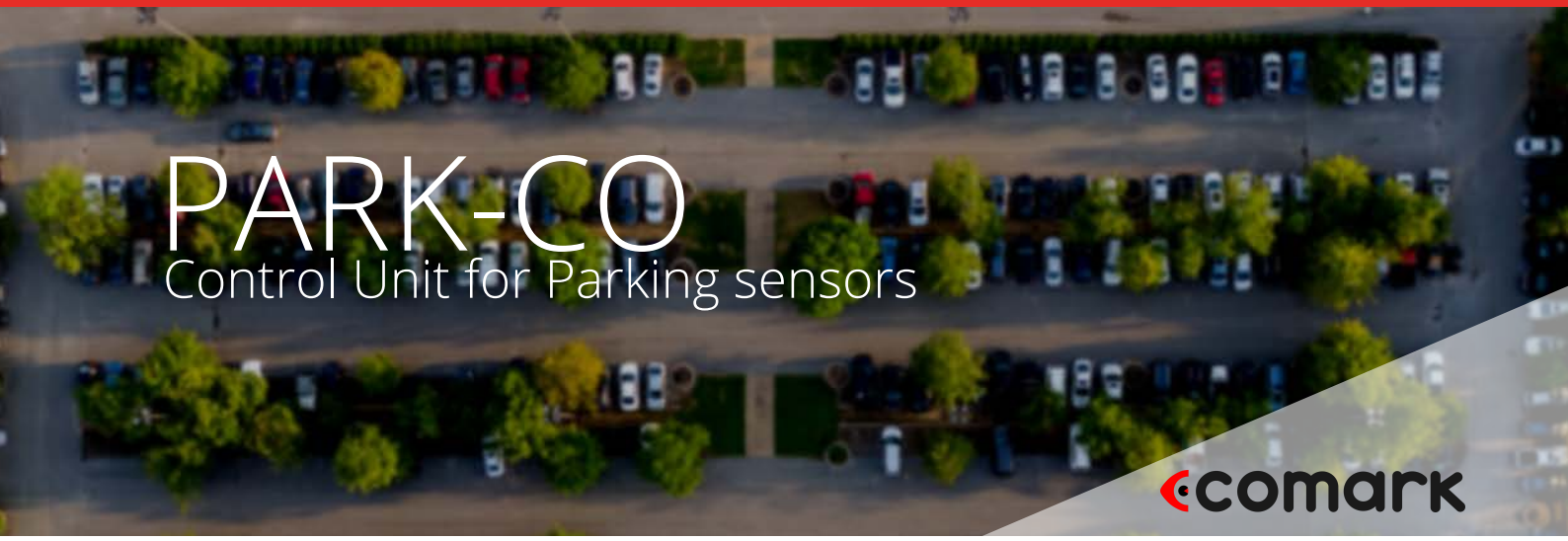
Axes number	3
Transmission frequency	868,5 Mhz
Power autonomy	5-8 years
Weight	1 Kg.
Power supply	1 or 2 Lithium batteries
Communication distance	100 mt
Protection	IP68
Dimensions	50(h) x80x90 mm
Temperature range	-20°C ÷ +50°C



LOGAT-01

Antenna connection	SMA, 50 Ohms
Transmission frequency	868,5 Mhz
Radio power	14 dBm
Weight	0,5 Kg.
Power supply	12V
Communication distance	100 mt.
Communication bus	RS485
Connector	19 pins
Dimension	106 x 96 41 mm.
Interface	Display, buttons
Operating temperature	-20°C ÷ +50°C





PARK-CO
Control Unit for Parking sensors

Control unit PARK-CO has been specifically designed to be connected to the Parking series sensors and to process, archive and send the data received from them.

It can be used with the wireless sensors (Lomag / Logat / Nora) or with the LSR2001 PARK.
If used with the wireless sensors it will embed the gateway that receives the data.

The PARK-CO is composed by:

- CPU
- Power supply
- Gateway or switch (depending on model)
- Router (Optional)

The PARK-CO functions are:

- Calculation of the free parking places
- Configuration of the gateway or sensors
- Configuration of the data regarding the data
- Diagnostics of the sensors
- Data sending to the server

Software

Data Analytics
Diagnostics
Reports

OMNIVIEW
Software

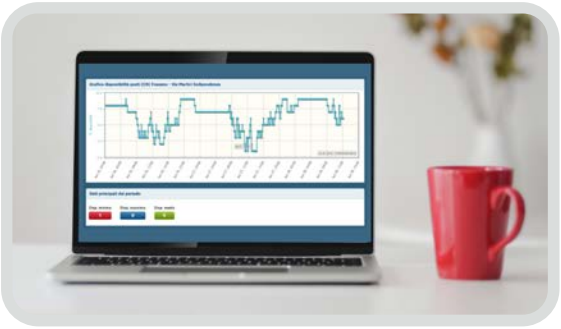
The Omniview software allows to manage and configure the control units and sensors in the field.
FUNCTIONS

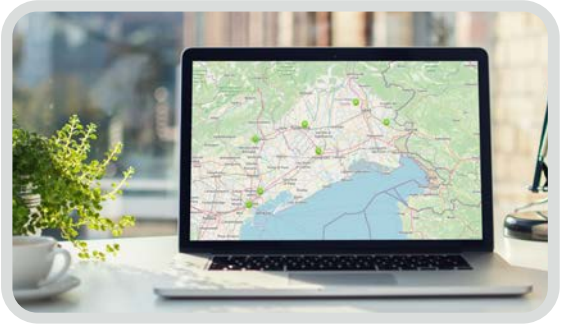
- Configuration of sensors and control units
- Data acquisition from devices in the field
- Storing data on the database
- Device diagnostics
- Processing and aggregation of data
- Creation of reports with graphics and tables
- Map with location of the stations
- Users management

REPORT (*)
The software offers an extensive list of reports for displaying data in various forms. For each of them it is possible to filter the data according to the location, the period and the lanes of interest.
Some of the reports available are:

- Display aggregated data
- Display individual transit
- Average daily traffic
- Speed/flow report

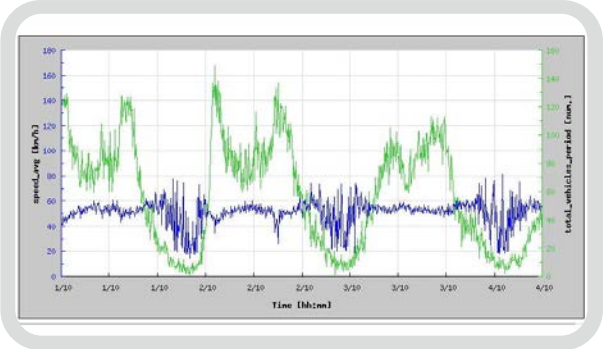
(*): Report possibilities will depend of each sensor's capability of data collection. Comark suggest to check always with the Customer Service the feasibility of reporting.





OMNIVIEW
Software

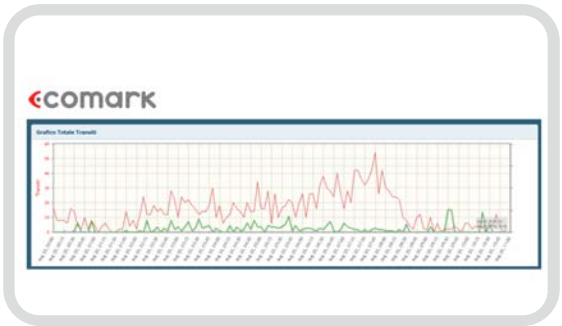
DIAGNOSTICS
TrafficView allows a real-time monitoring of the system status through the pages that show all devices with anomalies. In particular, it displays the status of the control units, sensors and communication.



MAP
TrafficView also offers an interactive map view that allows to see the location of devices and monitor their status.

Depending of the application, Omniview software is composed by the following licenses:

- **Omniview Traffic**
- **Omniview Bluetooth**
- **Omniview Parking**
- **Omniview People**



comark

The HeArt of Traffic Detection

Comark srl
Via Galileo Galilei, 5
33010 Tavagnacco (UD) Italy
Tel. +39 0432 882105
www.comarkud.it

Versione 1_2022