

The Range&Speed detector LSR2001-R&S can provide the distance and speed of an object in real time.

The Range&Speed is based on a laser scanner that can have 1 or 4 detection planes (depending on the version) with a detection angle of 96°. Along the plane the sensor have a high resolution (274 points) and is able to detect and track almost any kind of object.

The detector continuously checks the position of the object and determines how it moves providing presence, distance and speed information.

It can be used in traffic, industrial automation or whatever application where a precise control of the position of an object is needed.

# Range & Speed Laser scanner

**REAL TIME DISTANCE AND SPEED  
PRESENCE IN 4 AREAS  
MULTI OBJECTS**

Depending on the application the maximum range of detection can vary from 20 to 30 meters.

The area of detection can be configured by software; any object or person moving outside the configured area will be ignored.

The laser can identify and track multiple simultaneous objects in the detection area.

The laser is very fast and can update the information each 16 ms. So it can be used in real time application where a specific action has to be taken basing on the position and speed of an object.

The LSR2001-R&S provides the following data:

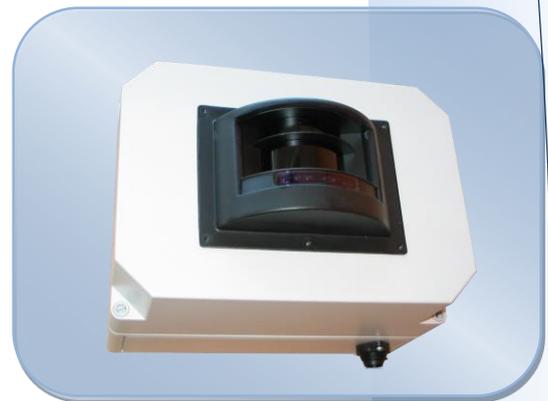
- Presence
- Distance X and Y
- Speed X and Y

The R&S can be configured to filter small or big objects ;as an example in an application where the movement of a truck has to be monitored it is possible to filter people (which are smaller)

It is also possible to configure 4 areas within the detection area, where, if an object is present, a relay (one for each area) is activated.

Among the main applications we underline:

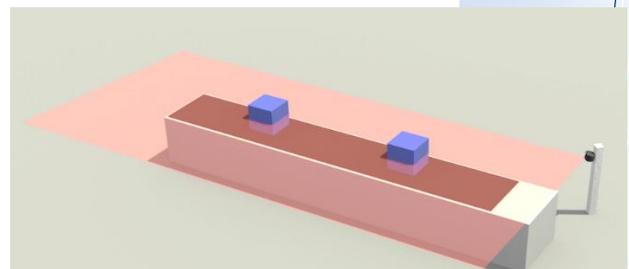
- Vehicle position monitoring: check the position of a vehicle along 30 meters and take appropriate actions (ex. Write the distance in a display so that the vehicle stops in a precise position)
- Vehicle speed detection
- Object position and tracking while moving on a machine



The real time data can be viewed by using a browser and connecting to the detector; a dashboard with the distance, speed and presence information can be seen. Otherwise the data can be taken by connecting to the Ethernet and using a specific protocol.

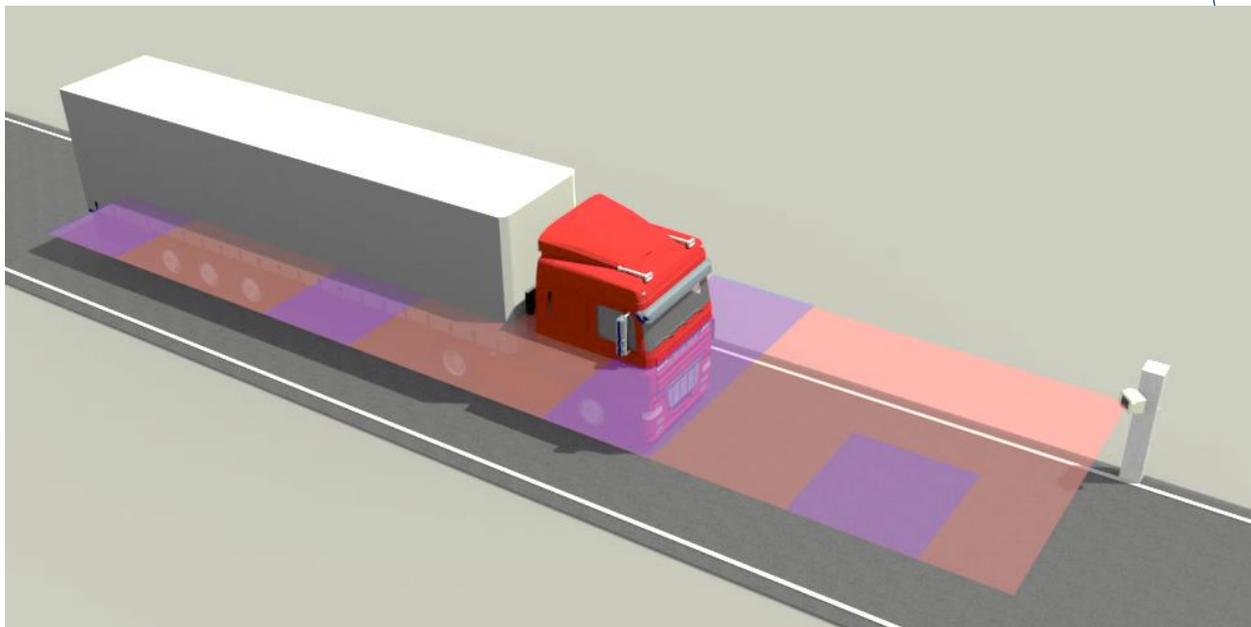
The sensor has been designed by both the mechanical and the firmware side to be used in outdoor applications even with adverse weather conditions. The firmware implements specific rain and snow filters.

The optics of the laser scanner consists of two physically distinct areas for the transmission and reception of the laser beam, making it particularly immune to the opacity produced by dust, water and pollutants.



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Representation of the laser beam and the detection areas

## Dashboard - Zone 1

Distance Y (cm.)

0

Speed Y (km/h)

0

## Zones

Zone id	1	2	3	4
Trigger	0	0	0	0
Distance X (cm.)	22	0	0	0

Dashboard with real time data on Position, Speed and presence in 4 areas

## TECHNICAL CHARACTERISTICS

<b>TECNOLOGIES</b>	laser scanner
<b>EMITTED LIGHT</b>	905 nm – not visibile
<b>LASER CLASS</b>	Class 1
<b>LASER BEAM ANGLE</b>	96°
<b>RANGE</b>	20-30 meters (depends on application)
<b>DATA TRANSMISSION</b>	Ethernet
<b>OPERATING TEMPERATURE</b>	-15°C +55°C or -40°C +55°C (*)
<b>POWER SUPPLY</b>	12 or 24 Vdc (*)
<b>NUMBER OF LASER PLANES</b>	1 or 4 (*)
<b>PROTECTION</b>	IP65
	(*) Depends on version

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