SMARTSPECTOR Stop!Detector™

The pioneering measurement system (patent pending)

SMART
SPECTOR

vehicle passed without stopping
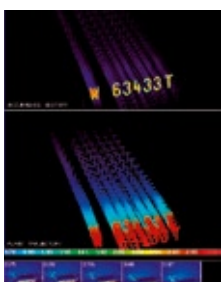
Fields of application

- Statistical surveys of speed-profiles and stopping of vehicles at high risk sites

- Identification and documentation of stop-sign violation, hereby providing appropriate means of evidence

Traffic sensors made by Smartspector are designed with the objective to improve safety, efficiency, and sustainability in public and private transport.
As a case sui generis, Smartspector Stop!Detector™ is specifically designed to analyse driver behaviour at stop lines. With its novel detection capabilities, it is a highly valuable tool for statistical analysis. Due to its straightforward informative value, the output of the measurement system is also a solid piece of evidence for enforcement purposes. With these performance features, Smartspector Stop!Detector™ effectively contributes to enhanced road safety in the scope of high risk sites.

vehicle stopped

Measurement Principle

Unlike prior state-of-the-art devices, Smartspector Stop!Detector™ has the capability to perceive motion and identity of a vehicle with one image sensor only. By tracking and superposing the unique contours of a license plate, the system determines and documents a precise trajectory of a vehicle passing the stop line. Suitable sensor alignment and physical vehicle properties allow a reliable distinction between stopping and non-stopping vehicles. As a matter of course, the system can also be configured to ignore those vehicles that slowly pass the stop line.

Compactness

Since a single sensor suffices to analyse all relevant parameters of a passage, Smartspector Stop!Detector™ not only implements reliable technologies but is also extremely compact and easy to install. Due to its compact design, Smartspector Stop!Detector™ is suitable both as a portable system and as a very cost-efficient and largely maintenance-free permanent installation. Misdemeanour can be pinpointed in a single image. Thus, self-contained operational modes may support compact removable media, e.g. SD-cards, for on-site archive management.

Clarity at a glance

Smartspector Stop!Detector™ provides a colour-coded result image, visualising three relevant domains of the scene:
- original photograph depicting vehicle and licence plate
- time-coded superposition of segmented licence plate elements
- probability-coded superposition of segmented licence plate elements

With selected presentation of the passage as a single colour-coded image, the common track of taking video streams is abandoned. Instead of repeatedly operating play, stop, and rewind buttons, an instructed person classifies Smartspector Stop!Detector™ images within a split second. No matter whether manual statistical assessment or enforcement, Smartspector visualisation guarantees highest efficiency and clarity for all user interactions.

SMARTSPECTOR Stop!Detector™

Specifications Stop!Detector™

Licence plate:

default configuration:*
- non reflective characters upon undamaged
  reflecting field

Sensor arrangement:

Aside passage lane*

Passage speed:

max. 50km/h

Nominal lateral offset:

2,500mm*

Nominal longitudinal range of observation:

6m - 10m*

Perspective:

max. angle between optical axis and perpendicular
plate-axis: 35°
max. angle between principal of field of view and
principal of plate: 10°

Results:

colour coded image with text header:
 - passage ID
 - time stamp
 - device ID and name
 - full-size photograph
 - half-size trajectory picture
 - half-size probability image
 - look-up table for brightness, time code
   and probability
 - time diagram
 - index-image sequence (max. 16 images,
   1/8 size with time offset)
Result message:
 - passage ID
 - LPR result (encrypted)

Operating temperature:

-33°C - +45°C (standard version)
-15°C - +45°C (mobile version)

Power supply:

24VDC ±5% / 2A stabilised, short-circuit proof
(standard version)
24VDC ±5% / 300mA stabilised, short-circuit proof
(mobile version)

Device integration :

Smartspector SVE-DeviceManager**

Device administration:

Smartspector SVE-DeviceManager
GUI: Smartspector SVE-Toolbox**

Interface:

100MBit Ethernet

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*   different configurations upon request

**   Windows® 32 compatible