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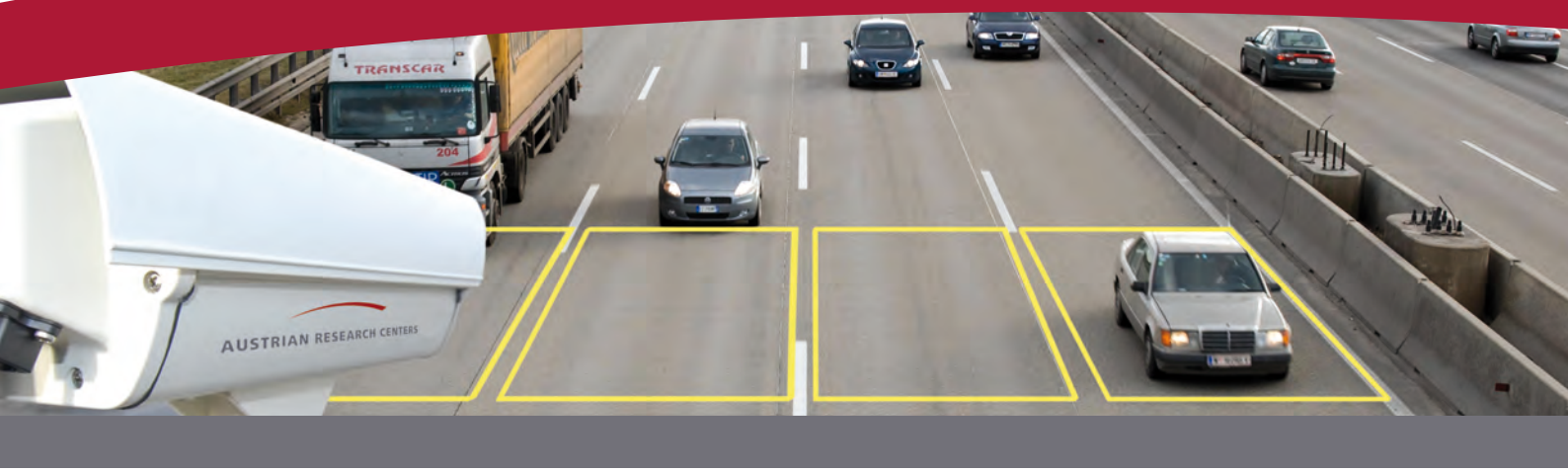


Real-time-Data for Your Traffic Management System

smart eye ▶ TDS – Traffic Data Sensor

Date 1. 4. 2009

AIR MONITORS Ltd.
Quality - Service - Innovation

smart eye ▶ TDS “Keeps traffic in the flow”

In future, automatic traffic control systems will manage the control of vehicle flows. smart eye TDS enables monitoring of road traffic and automatic intervention in critical traffic situations.

- Single vehicle detection on up to 4 lanes (front fire and/or backfire detection)
- Traffic statistics for freely selectable time intervals
- Warnings based on decreasing speed, vehicle numbers and time gaps
- The prevention of traffic jams through large scale, early deceleration of vehicle convoys not only protects driver's nerves, but the environment as well - thanks to reduced fuel consumption.
- The control systems require spatially distributed sensors that collect and reliably transmit essential information (e.g. vehicle speed, density).
- The smart eye TDS - Traffic Data Sensor is distinguished by its performance (recording of up to 4 lanes with side or overhead mounting) and economy.

smart eye TDS allows the monitoring of the road and an automatic intervention in critical traffic situations.

smart eye ▶ TDS – Traffic Data Sensor

smart eye TDS is based on a novel CMOS vision chip. The system determines the traffic status from the object data supplied by the chip in the integrated signal processor.

Embedded system

The vision chip signals are evaluated "on board" by a digital signal processor.

Excellent scalability is achieved through Ethernet or serial connection.

The following data are generated for each vehicle:

- Time stamp (date and time)
- Lane number
- Speed
- Vehicle length
- Net time gap in milliseconds
- Vehicle type (car/truck or similar)
- Occupancy in milliseconds

Traffic statistics in required time intervals:

- Average car/truck speed
- Standard deviation of car/truck speed
- Car/truck vehicle quantity
- Average net time gap (ms)
- Occupancy (ms)

Warnings can be issued as required, dependent on traffic volume and average speed.

The CMOS vision chip only registers the outlines of travelling vehicles and generates a low volume of data that can be easily and rapidly processed.

smart eye ▶ TDS smart eye Center

- Simple configuration via Ethernet or SITOS
- Histogram of traffic flow (Ethernet)
- Graphic configuration of virtual loop
- Administration of multiple smart eye TDS
- Configuration of statistic parameters
- Loading and saving of individually configured working environments (views)

The smart eye Center enables simple configuration and maintenance. The software can be installed on any Windows PC/notebook and enables comfortable remote maintenance.

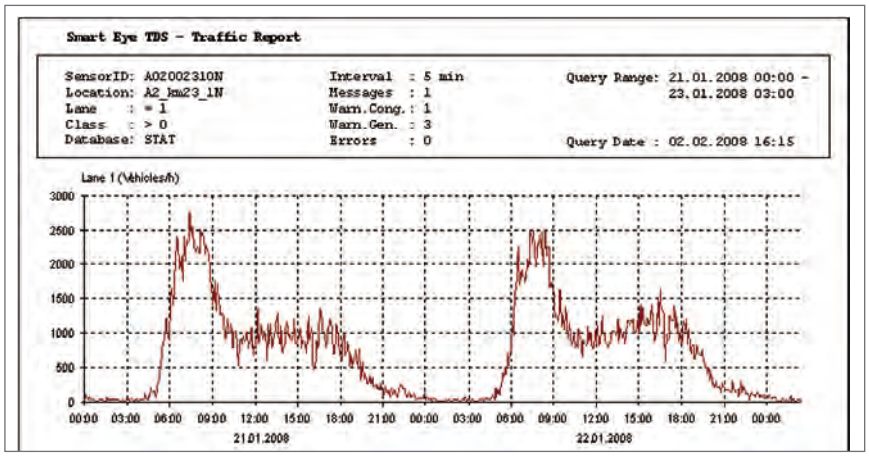
Setup of the traffic data sensor via smart eye Center

smart eye ▶ TDS smart eye Server

The following databases are supported:

- Microsoft™ - SQL 2003/2005
- My SQL Database
- Microsoft™ Access
- CSV-Fileformat

smart eye Server enables the simple connection of smart eye sensors to your database. Traffic data is transmitted in a format similar to XML.



Traffic data display using Microsoft™ Excel

smart eye ▶ TDS specification

- 1.8 kg incl. camera housing
- Ethernet 10/100 Mb/s / RJ45
- 220V AC or 9-36V DC, about 7.7 W (incl. heating 220V AC, 20 W)
- Temperature -30 to +55°C
- Humidity 0-95 % non-condensing
- CE conform
- Overvoltage protection
- Camera housing: Aluminium, degree of protection IP65
  Dimensions

  Approx. 340 x 140 x 110 mm
- Installation:

  Overhead or maximum 1 meter from the road 6 to 14 meters above the road, dependent on the number of lanes. Inclination, approx. 60° towards road surface

smart eye ▶ TDS optional

1. Serial interface with SITOS data protocol
2. GSM/GPRS version

   GSM/GPRS module, non-volatile FLASH memory for up to 100,000 individual vehicle data (in preparation)

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www.airmonitors.co.uk

Air Monitors Ltd
Unit 2 Bredon Court
Brockeridge Park Twyning
Tewkesbury GL20 6FF
UK 01684 857530 Intl +44 1684 857530