VITRONIC
machine vision people

Technical Information

TRAFFIC TECHNOLOGY

PoliScan*speed*
Road Traffic Safety with Digital Speed Enforcement

Multi lane and multi object capable: PoliScan*speed* captures and documents digitally

PoliScan*speed* – the new generation in speed enforcement

The system:

- Simultaneously measures multiple vehicles in multiple lanes
- efficiently attributes measurements, even to tailgating speeding vehicles
- even operates within road work zones in bends, in tunnels and partially obscured locations
- generates digital case files and
- delivers a higher rate of prosecutable images than competitive solutions.

In this way, PoliScan*speed* now provides improved safety in many challenging traffic situations where previous systems were inadequate.

PoliScan*speed* ensures that all vehicles visible in the tracking zone are concurrently captured and recorded. Violations are attributed to specific vehicles and documented – even if several vehicles are traveling side by side or driving with inadequate separation.

Laser based measurement principle

At the core of both the fixed and mobile PoliScan*speed* systems is the new LIDAR technology. A scanning laser is used to measure the speeds and position of every vehicle in the tracking zone using time-of-flight measurement. A key advantage for the operator: PoliScan*speed* is certified for unattended use. Erroneous measurements resulting from incorrect adjustment or operator error are prevented through a combination of system design and the inherent capability of the laser measurement system. All documented speed violations are valid before a court of law.

Unbroken chain of evidence

The new and efficient speed enforcement system operates irrespective of the time of day, weather conditions or the traffic density. PoliScan*speed* ensures that the case files provide an unbroken chain of evidence and are valid before a court of law:

- a certified electronic signature and encryption protects against data manipulation and prevents unauthorized access
- for mobile deployment, PoliScan*speed* optionally automatically records the location of the measurement site
- the calibration period is monitored automatically
- all case relevant data is contained within a single file. Both the driver and the license plate are clearly visible within a single image. The speed measurement, witness data, incident time and other ancillary information form an integral part of the digital document.

Greater throughput

The system operator is capable of processing a greater number of cases in a shorter time-frame, thus working more efficiently than with conventional enforcement.

PoliScan*speed* mobile
Ready for action in a short time

PoliScan*speed* is easily installed into either the rear load space of a vehicle or at the front, adjacent to the driver. Alternatively, PoliScan*speed* can be tripod mounted in a short time. The system is ready for use without tedious site calibration. No additional triggering equipment such as light barriers are necessary.

A particular advantage for the operator: PoliScan*speed* functions completely automatically, removing human error from the measurement result.

PoliScan*speed* installed in place of the front passenger seat ...

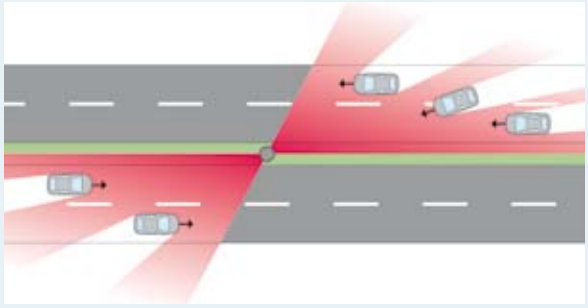
... installed into the rear load space ...

... and mounted on a tripod.

The elegant and inconspicuous design fits into any urban environment.

PoliScan*speed* fixed
Stationary installation and yet flexible

What characterizes the fixed version of PoliScan*speed* is its flexible assembly and the resulting wide range of application possibilities. Up to two measurement/documentation units can be mounted within a single pillar. The pillar is comprised of rotatable segments, meaning traffic can be monitored in both directions of travel. At crossroads, the segments can also be rotated in an arbitrary direction. Another particular advantage for fixed system operators: the installation of in-road equipment such as piezo sensors or loops is not necessary. Thanks to its elegant and inconspicuous design, PoliScan*speed* can blend into any urban environment or landscape. With its smooth, cylindrical surfaces and concealed technology it represents a vast visual improvement on the traditional, grey boxes' used for enforcement.



Three lanes can be monitored in each direction from the median strip.

Technical data

	PoliScan*speed* Mobile	PoliScan*speed* Fixed
		
Operation mode	Fully automatic; unattended measurement	Fully automatic
Operational range	15m – 75m 49ft – 246ft	15m – 75m 49ft – 246ft
Working distance	10km/h – 250km/h 6mph – 155mph	10km/h – 250km/h 6mph – 155mph
Enforcement rate	> 1 vehicle/s	> 1 vehicle/s
Lanes	up to 4 lanes (front, driver image) up to 5 lanes (rear, lisence plate)	up to 3 lanes (front, driver image)/direction up to 4 lanes (rear, lisence plate)/direction
Sensor systems		
Camera	2 high resolution cameras, black & white, 4MP each	2 high resolution cameras, black & white, 4MP each
Alternative	2 or 3 high resolution color cameras	2 or 3 high resolution color cameras
Illumination	Red light flash (650nm)	Red light flash (650nm)
Alternative	Infra-red, not suitable for driver images (> 800nm)	Infra-red, not suitable for driver images (> 800nm)
Measurement device	LIDAR sensor eye-safe	LIDAR sensor eye-safe
Country versions	User interface available in English, German, French, Arabic, Mandarin	User interface available in English, German, French, Arabic, Mandarin
Operating unit	Compact remote user interface for setup and transfer of incident data	System can be operated without a user interface. The user interface can be a laptop or PDA. Optional GPS receiver for automatic adjustment of date and time
Interface	Encrypted connection between user interface and measuring unit	Encoded connection between control and measuring unit
Display	2 x 16 characters, 9mm/0.36“ character size	2 x 16 characters, 9mm/0.36“ character size
Case documentation		
Evidentiary images	Digital photo of the vehicle with the driver (front operation only) and the license plate, 1 high resolution image per lane/case, max. 8MB per case	Digital photo of the vehicle with the driver (front operation only) and the license plate, 1 high resolution photo per lane/case, max. 8MB per case
Electrical data		
Power supply	12VDC	230V~ (or 12VDC)
Power consumption	max. 50W	max. 50W/system
Mechanical data		
Dimensions	Measuring unit: 380mm x 300mm x 280mm/ 15“ x 12“ x 11“ (l x w x h) Flash: 360mm x 250mm x 230mm/ 14“ x 10“ x 9“ (l x w x h)	Total height: 2490mm – 3090mm/ 74.4“ – 121.6“ Diameter: 420mm/ 16.5“
	IR flash: 358mm x 218mm x 228mm/ 14i“ x 9“ x 9“ (l x w x h)	
Weight	Measurement device: 17.5kg/39lbs. Flash: 10.5kg/23lbs. IR flash: 7kg/16lbs.	Measurement unit: 13kg /29lbs. Flash unit: 4.45kg/9.81lbs. IR flash unit: 7kg/16lbs. Aluminium pillar: 170kg/375lbs.
Configuration	vehicle or tripod mounted	Mounted on a concrete foundation

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